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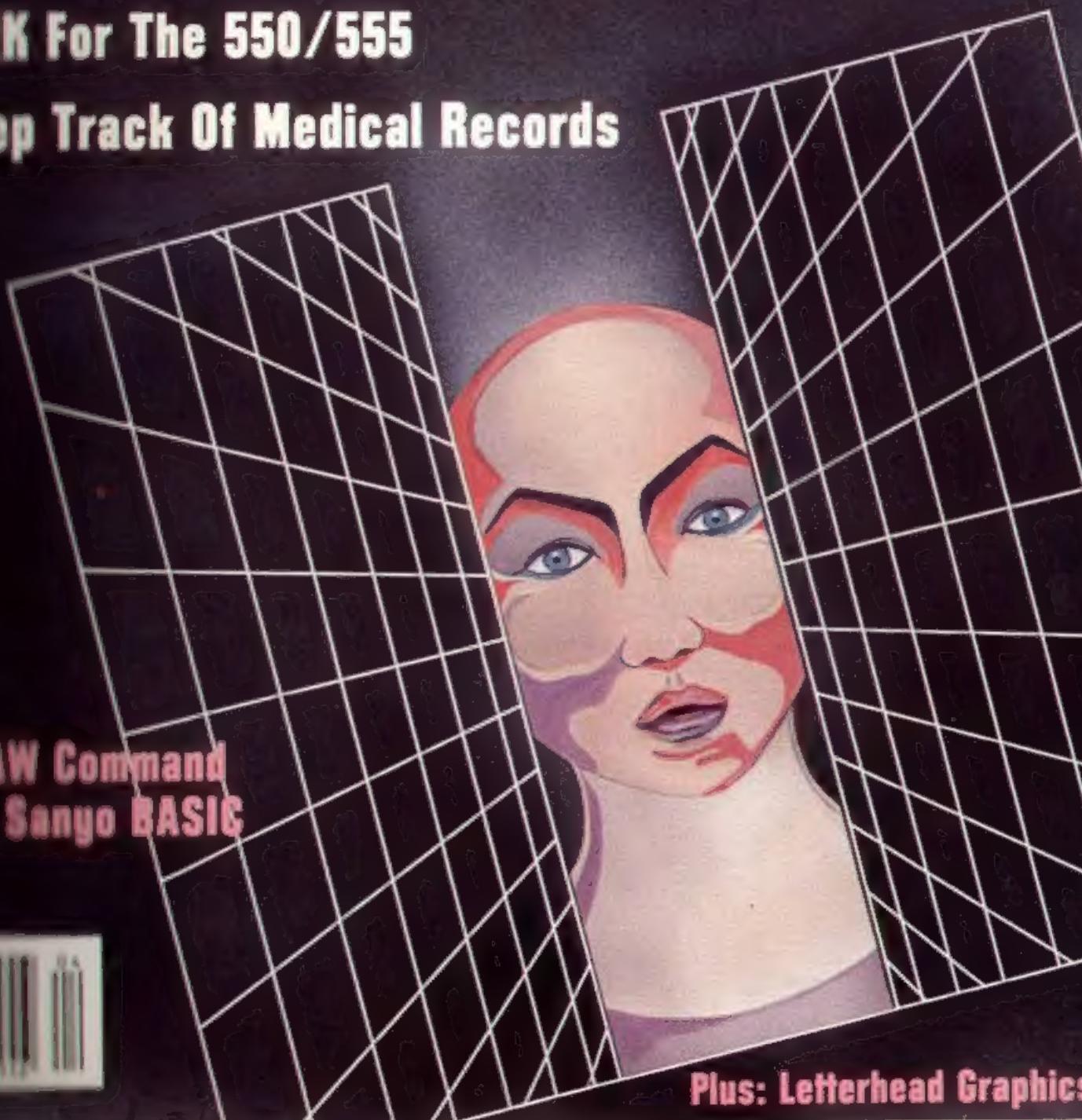
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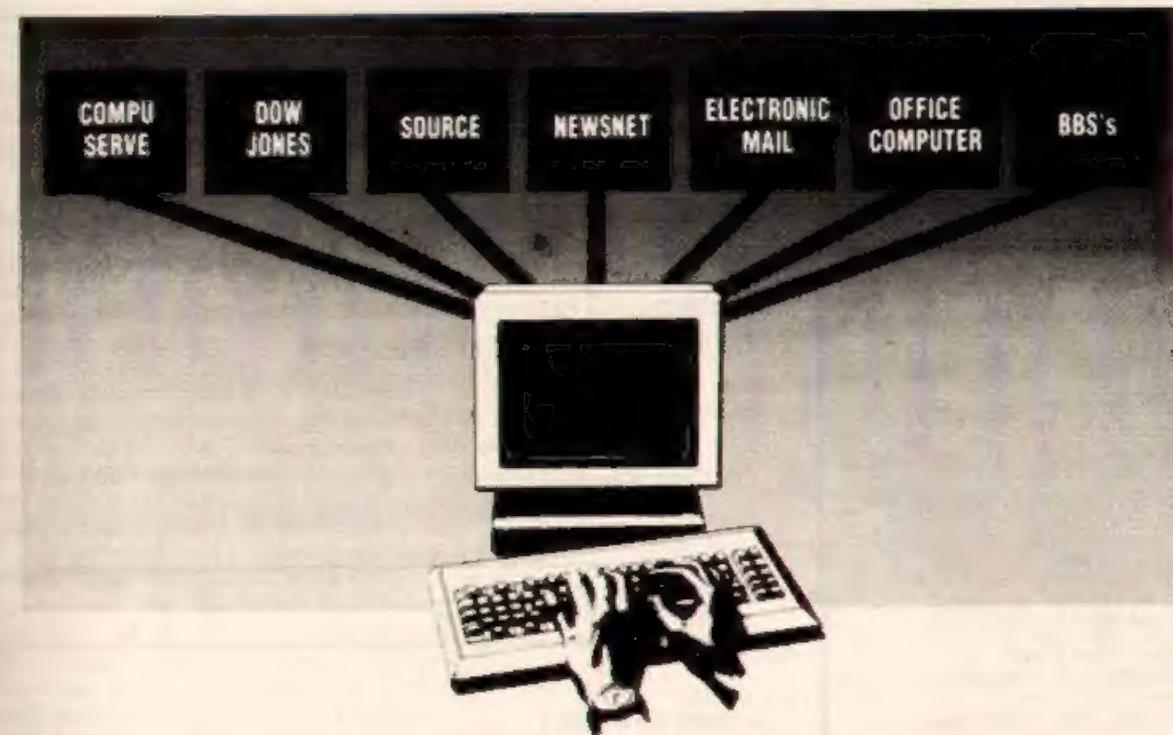
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The Monthly Magazine for

Sanyo Personal Computer Users

Vol. II, Issue 9 April 1986

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■ The small disk symbols appearing beside features and regular columns indicate that the program listings with those articles are on this month's **SOFT SECTOR ON DISK**, ready to LOAD and RUN. For full details, see the **SOFT SECTOR ON DISK** ad on Page 27.



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# Delphi Bureau

By Kevin Nickols  
MS-DOS SIG Manager

The Delphi MS-DOS SIG has really been picking up steam over the past month. Membership is now well over 2,000, with as many as 100 members accessing the SIG on a single weekend day. And even better, more and more knowledgeable Sanyo users are taking the time to participate, share their programs and help others with answers and advice.

The databases are beginning to fill with public domain and user-supported, or "freeware," programs. There are many excellent utilities, full-featured terminal programs, games, home and business programs, and programming aids. If you are not familiar with user-supported software, these are market-quality programs, distributed freely by the producers with a note asking for a small donation if you like and use the software. It is a great marketing concept, giving you the chance to use a program before paying for it and also saving you the tremendous distribution costs tacked onto conventionally distributed software products.

Regrettably, Delphi has instituted an hourly rate hike, effective March 3. The basic rate for evening and weekend hours, previously \$6, will increase to \$7.20 an hour for mainland U.S. and Canadian members who access via Uninet and Tymnet. The prime daytime rate will increase from \$16 an hour to \$17.40.

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## SOFT SOAPBOX

In the area of good news, there has been a management shakeup at Sanyo and some new directions in marketing are in the offing.

Belinda wrote a couple of months ago that Sandy Waters has left Moonachie. He was the marketing manager under Ed Goulart, who has now also left. Goulart was national sales manager.

Lou Leonardo is now national sales manager, while Mark Zeiger continues as manager of research and development. Mark is an "old-timer" and one of the most knowledgeable persons I know of in the Sanyo field. Moreover, he has a level of interpersonal communication skills which was sorely lacking under the old regime.

As I wrote you in this space before, Sanyo certainly has a right to determine how to market products it manufactures. However, the implementation of that program has been poorly handled to the end that sales have suffered greatly. It was interesting that Sanyo was still producing the same fine, high-quality machines as before, but that the sales effort slowed dramatically almost from the day the new regime came aboard.

I see better days for this market. I know that, under the direction of Eisuke Tomochika, who heads Sanyo Business Systems in the United States, there is a firm and committed desire to a successful marketing effort. I also know that the Sanyo machines — both "old" and "new" ones — are excellent products.

Given good leadership in the sales and marketing area, I think those of us who support Sanyo's excellent products have some exciting and happier days ahead.

— Lonnie Falk

An introduction and some good news

for all Sanyo users prompts me to take over this space this month. The introduction involves one Ed Ellers, who, effective this month, becomes managing editor of SOFT SECTOR. Ed replaces Belinda Kirby who has been promoted to a lofty new position as editorial manager for two weekly newspapers in the Louisville area that we have recently begun to manage.

Belinda has done a fine job with SOFT SECTOR, as I am sure you will agree. I know that all of you will wish her well.

Ed has been on our staff for two years, primarily as a technical assistant, columnist and "answer man" for all three of our computer publications — as well as our new video software magazine, VCR. He has vast experience in both computer hardware and software and will, I believe, help greatly in blending the technical intricacies of the sometimes mysterious 550/555 and the new Sanyo line of MS-DOS compatibles.

I know you will all join me in welcoming Ed to his new responsibilities. I believe you will be pleased with some of his ideas and plans for SOFT SECTOR.

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# LETTERS TO THE EDITOR

**PARK AVION**

## SOFTWARE CATALOG

**Editor:**

I am a new owner of a Sanyo MBC-555-2 and am interested in knowing if you have a catalog and price list of programs available for my machine.

I'm presently interested in graphics programs that produce bar charts, etc.

**Bob McQuaid**  
Ardmore, PA

**Editor's Note:** Sanyo currently sells a Sanyo Compatible Software Catalog for \$3. For further information or to order, write: Sanyo Business Systems Corp., 51 Joseph Street, Moonachie, NJ 07074.

## PICTURE PERFECT

**Editor:**

From reading each issue of SOFT SECTOR I have, I got the impression that your staff is very helpful and I do need a little help.

## FOUL PLAY

**Editor:**

In response to Donald Ellsworth's inquiry (SOFT SECTOR, Feb. 1986) whether the APBA Major League Player's Baseball Master's Edition will work on the Sanyo MBC series computer, I advise him not to waste his money.

I spent almost \$90 on this program (not including sales tax) only to find out, after opening its package and trying it, that it will not work either on the Sanyo-video MBC with double-sided drives, or on one equipped with the Video RAM Board. The program will not load on either model, and in any case it requires the "Alt" key to print out the boxscore — the permanent record of your game. Since I have happily played the table version of APBA Baseball for 16 years, I was bitterly disappointed to discover I couldn't play it on my computer because the software is so slavishly dependent on the IBM standard.

I suggest that APBA Baseball fans, who don't have a 100 percent IBM compatible, write to the game company and to the publisher, Random House Software, complaining about this short-sighted design decision and requesting a generic MS-DOS version that the rest of us in the non-IBM, MS-DOS universe can enjoy.

**Jorge E. Amador**  
Forest Grove, PA

## MORE MEMORY

**Editor:**

I want to expand the memory of my MBC-555-2 to at least 512K, but the expansion cards seem expensive, particularly in \$CAN.

In the January issue, Bob Jack's article, *Mega-DOS*, says: "You will have to add the additional memory. There are several ways to do this. The most popular way is to 'piggyback' four more banks of 64K memory chips onto the two banks of memory chips which plug into the main computer board . . ."

This seems to be inexpensive but how could I do it. Could you explain it in great details? Also, what are the other ways? Could I unplug the 64K memory chips and plug 256K memory chips instead?

**Marc Routhier**  
Sainte-Foy, Quebec

**Editor's Note:** In this issue, Bob Jack explains how to add additional memory by piggybacking. Look for his article, "Piggybacking" on Page 20.

## 885 SUPPORT

**Editor:**

Recently, I elected not to renew my subscription to SOFT SECTOR as I no longer own a Sanyo MBC-555. My rationale is that your publication is geared toward the 555-775 and not my recently purchased Sanyo MBC-885.

I'm interested in whether or not you intend to include the 885 in your publication. If the answer is yes, I'll consider resubscribing. Whether or not the published routines will work on my machine is of prime importance, as well as the software supplied by your advertisers.

I am most interested in a good, dedicated publication as the SOFT SECTOR 555 relationship has been. Please advise.

**Walt Harris**  
Millant, HI

**Editor's Note:** We do plan to cover the 670, 770 and 880 series computers in future issues. The depth of our coverage will depend on the amount of material we receive from readers like yourself.

The only monitor I was able to receive with my computer was the CRT-30 which is very nice, but of course, has no color. Naturally, Sanyo recommends the CRT-70 as the best RGB monitor, and I have seen many advertisements in SOFT SECTOR where I would be able to obtain that model, but I would like to do a little research first.

I don't know anything about the differences in the various RGB monitors, and since there are so many available, I would greatly appreciate it if your staff could please give me some advice. I would like to purchase the best RGB monitor for the least cost. My only concern is to obtain one that performs all the capabilities that are possible with my model.

Could you please send me some information regarding the differences between the various RGB monitors and give me an idea of what may be the best for the money? Are there any that can perform as well as the CRT-70 for less cost? Also, why does the CRT-70 cost so much?

Any help or advice that you could give me would be greatly appreciated. Keep up the fine job with your magazine. It is truly the greatest help I have had so far with my Sanyo.

**Louis Harding**  
Waldorf, MD

**Editor's Note:** The Sanyo CRT-70 monitor uses a relatively expensive high-resolution picture tube designed specifically for computer use. Many other monitors, such as Sanyo's CRT-30, use tubes similar to those used in home TV sets and provide somewhat less resolution. Any RGB monitor (or color TV with RGB inputs) designed for use with the IBM PC will work with the Video RAM Board and with the MBC-675, 775 and 885 computers. Many of these will also work with the standard RGB output on the MBC-555, but some monitors won't accept its synchronizing pulse signals.

## UPGRADES GALORE

**Editor:**

Last October I renewed my subscription for another year. Boy, was it worth it. In just two of your issues I was able to change my MS-DOS to address my 512K upgrade. I also set up an MS-DOS compatible print spooler (I was using DS-DOS Plus for the above upgrades).

Your review of the V20 chip allowed me to upgrade my 8088 to the V20 and to change my MS-DOS boot file, FORMAT.COM, and QLICOPY to run with the V20.

Using a disk zap routine from the Michigan Software bulletin board, plus your V20 review, I was able to get my Cashman program to run on the V20 chip also. Thanks for a great magazine.

**Joe Matherly**  
Orange Park, FL

## PRINTING POINTERS

**Editor:**

Found you at last! I knew you had to exist, but as you don't appear in the usual outlets here, your publication was unknown. It is only since I discovered Molimerx was importing SOFT SECTOR that I knew my search was at an end.

Thank you for producing an entertaining and very helpful magazine. I think I have learned more about my MBC-555 reading SOFT SECTOR than all the nights spent wading through the manuals when starting off. Please keep up your very high standards.

As I have only been receiving the magazine from the November '85 issue, I don't know if the "Helpful Hint" listed below has been covered in a previous issue. Anyway I am sure you will use it if you feel it merits inclusion.

I run a Queme-compatible printer with my system (Daisystep 2000). A more pleasing result is obtained using a 12-pitch elite wheel and do the majority of my work with this set up. WordStar, however, is defaulted to print in 10 pitch, with CTRL PA to set the alternate 12 pitch.

I became more and more frustrated with having to remember to put either CTRL PA or CW 10 at the beginning of each document or letter I produced, so I went back to the installation manual to see if that could help with my problem.

The manual suggests that the printing pitch default can be altered by selecting 'D'

— Custom Installation of Printer from the Install menu, and then 'Q' — Character Pitch, and inserting the appropriate ESC sequence to enable the required default setting. I tried every permutation of the required sequence without success.

I then wrote to Dr. John D. Lee and Timothy D. Lee, our WordStar "gurus" to ask their help. They came up with the following:

"Using Install and typing '+' at the opening menu gets you to the user patchable area. The default value for the Standard Print Width is stored at Location : INITPF\*16 (in WordStar 3.2 and later) where the current value is 0CH (12 decimal), this needs to be set to 0AH (10 decimal) to effect 12 pitch as the default."

See Page 16 of the Quick Reference part of the Sanyo Micropro Manual under ".CWn" for a fuller explanation of why these numbers are selected.

I implemented these changes through the Install program with complete success and now can forget the drudgery of setting printing widths at the start of every document.

**Brian Pogson**  
Worthing, West Sussex  
United Kingdom

## UNBELIEVABLE SPEED

**Editor:**

I am pleased to report that I, first of all, made all of the speed-up patches for WordStar printed in SOFT SECTOR magazine. The speed up in the video board mode was fantastic. With my three-color screen, it is unbelievable how fast WordStar is, and with very clear text quality.

Upon reading the advertisement about FastStar by PT Software, I decided to purchase it for the low price of \$20. I must say that this is even more unbelievable. The speed up is faster in all aspects of WordStar. Even menu scrolling is very fast. It even speeds up WordStar in Sanyo regular mode, to the point that it is acceptably faster in all aspects; although not as fast as in the video board mode.

I also used WizStar from SOFT SECTOR magazine to obtain the extra 10 PF keys. I may be mistaken, but it seems that FastStar works even better when you have run WizStar on WordStar also.

The FastStar "RAM disk" feature seems to be even a better feature than A-OK'S Turbo Drive 550, in that you do not have to put COMMAND.COM onto the FastStar RAM disk as you do with Turbo Drive 550. More memory seems to be available. The FastStar RAM disk uses only 73K of RAM.

In the video board mode, WizStar's first 10 PF keys will not show when WordStar first comes on. I found out that in order to get all 20 PF keys to show on the screen, you have to first run a program from the opening menu's 'R' option to run a program. I run CHKDSK and "magically" all 20 PF keys will appear onscreen in beautiful color.

My color monitor is the Taxan RGB 420. I do not have the text clarity problem mentioned in the Silver Fox review in Byte magazine, January 1986, in video board mode.

**John N. Logreco**  
Los Angeles, CA

## SEARCHING FOR GAMES

**Editor:**

We have a Sanyo 550 with two disk drives. Your magazine has been very helpful at various times. We are interested in purchasing some games with good graphics that are action games, not strategy.

Can any of your readers recommend any that they currently have?

I purchased DC-10 after being told by the dealer that it had "good graphics," only to find it is an instrument panel.

Also, can anyone recommend the cheapest dealer from which to purchase these? We will probably need a joystick, too.

Thank you. Please write to me at 1910 Camberly Drive, 44124.

**Linda Stavis**  
Lyndhurst, OH

# Sanyo BASIC to PC BASIC Converter

**H**ave you ever written a great program and then tried to show it to your friend — the one with the IBM PC? If so, you have seen the minor problem which occurs, an error called "Direct Statement In File." This will also occur if you go from a Sanyo without the Video RAM Board to a machine with one. The cause of this problem is the line feed characters Sanyo BASIC inserts. PC BASIC does not recognize them.

This program will remove the line feed characters. It works by OPENing the BASIC program as a file and GETting it 128 bytes at a time. It then checks each byte to see if it is a line feed character, CHR\$(10). If it is, it changes it to a space. Then it PUTs the record back onto the disk. If you wish to watch it work, insert PRINT E\$ at Line 405. It should print out all on one line since the line feeds have been removed. However, if you load and list the program, it will still list normally. If E\$ prints out as a bunch of garbage, you did not store the program in ASCII format.

The first thing you must do is save the program in ASCII format with the SAVE "filename",A. Then go back to DOS and find out how many bytes long it is. A word of caution: The length will be different after you save it in ASCII format.

When you run the program, it will ask for the filename. This includes the extension and disk drive, if required. Then it will ask for the number of bytes in the file. The next thing you will see is a statement telling you which record it is working on. This was included to prevent you from thinking it is caught in a loop and panicking on long files. The program can take a couple of minutes to run if the file is long.

When it is completed, the program you removed the line feeds from should run on a PC. However, you may still get some syntax errors because of differences in Sanyo BASIC and PC BASIC.

*Mike Albers holds a degree in mathematics and works as a technical writer. He is currently attempting to market a retirement plan accounting program. He may be contacted at 106 Virginia Place, Cary, NC 27511, (919) 469-3738.*

By Mike Albers

## Move your 550/555 programs to PC BASIC

The listing: LFREMOVE.BAS

```
19 **** THIS PROGRAM WILL CONVERT A PROGRAM WRITTEN IN SANYO BASIC
29 **** SO IT CAN RUN ON AN IBM. IT OPENS THE PROGRAM AS A FILE AND
39 **** REMOVES ALL THE LINE FEED CHARACTERS. THE PROGRAM MUST FIRST
49 **** BE STORED IN ASCII FORMAT. SOME SYNTAX ERRORS MAY STILL OCCUR
59 **** DUE TO DIFFERENCES IN SANYO BASIC AND IBM BASIC.
69 '
79 DIM CS(128)
89 '
99 CLS : LOCATE 19,19 : INPUT "NAME OF FILE "; A$
199 LOCATE 11,19 : INPUT "NUMBER OF BYTES IN FILE "; BYTES
119 '
129 OPEN "R", #1, A$, 128
139 FIELD #1, 128 AS FS
149 '
159 FOR J = 1 TO BYTES/128
169 '
179 **** PRINT OUT NUMBER OF RECORD BEING WORKED
189 '
199 CLS : LOCATE 19,5,9
299 PRINT "Record "; J; " of "; BYTES/128; " is being handled now."
219 GET #1, J
229 '
239 **** LOAD CS() WITH VALUES FROM THE DISK
249 '
259 FOR I = 1 TO 128
269 CS(I) = MIDS(FS,I,1)
279 NEXT I
289 '
299 **** REMOVE THE LINE FEEDS
309 '
319 FOR I = 1 TO 128
329 IF CS(I) = CHR$(10) THEN CS(I) = " "
339 NEXT I
349 '
359 **** PUT CS() IN FORM TO LOAD BACK ON DISK
369 '
379 E$ = ""
389 FOR I = 1 TO 128
399 E$ = E$ + CS(I)
409 NEXT I
419 '
429 ISET FS = E$
439 PUT#1, J
449 '
459 NEXT J
469 CLOSE #1
479 END
```



# ASK SANYO

The following questions have been answered by personnel at Sanyo Business Systems Corp. as a service to SOFT SECTOR readers. Should you have a question, mail it to: 51 Joseph Street, Moonachie, NJ 07074.

**Q.** I bought a video board and tried a new "out of the box" Lotus. It does not display to the screen although it seems to load. It also appears to run. I thought the video board allows Lotus to run. What gives?

Alvin Jones  
Fayetteville, NC

**A.** The biggest problem with installing Lotus 1-2-3 on any system is choosing the correct configuration. If you are using an RGB monitor with your system, install 1-2-3 as IBM color. If you are using a composite black and white monitor, install 1-2-3 as IBM black and white. Never install Lotus as IBM mono, since this assumes video RAM at Address 80000 (Hex). The Sanyo video board emulates the IBM CGA and not the monochrome adapter. If Lotus is installed as IBM mono, nothing will appear on the screen.

**Q.** I'm especially interested in the PeachText 5000 software series. I tried running it on my Sanyo MBC-555, with no success, after configuring it for the IBM PC. Is the Peachtext package compatible with the addition of a video board to the MBC-555?

Gary A. Jacobs  
Redlands, CA

**A.** We have tested PeachText 5000 on the MBC-555 with the video board. The version tested was 2.11. The editing, printing and disk functions appear to work satisfactorily. However, because of the size of the program, it was impossible to test every function of the software. Therefore, while we believe PeachText 5000 will function correctly, we cannot guarantee that every phase of the program will work as it does on the IBM PC.

**Q.** I purchased a Sanyo MBC-775 in June and experienced two hard disk failures and three weeks of problems getting it to recognize the 640K of memory which I purchased. The memory problems were encountered by the dealer. An additional problem of getting CalcStar and WordStar to run was finally resolved by another customer who told us to restrict the memory to 256K and both would work. Finally, I got the machine home on July 20 and all was finally working fine until I was burglarized on July 22 and the MBC-775 was taken.

In September I purchased another 775 and the dealer could not make it recognize the hard disk, or the memory simultaneously. He tried to persuade me to switch to the IBM but I remained stubborn in my loyalty to Sanyo. I had owned an MBC-1000 for four years. After many calls to Sanyo, the hard disk manufacturers and two MBC-775s we were forced to give up. I purchased instead an MBC-885. Promptly the hard disk failed and had to be replaced, but all has been perfect ever since.

I am curious if other users have encountered similar problems, and wonder why Sanyo was unable to assist us. They could have lost a sale and a lot of good will. I work on an IBM-XT at my office and have yet to experience any similar problems.

Ann Guiles  
Miami, FL

**A.** I am sorry you have had problems getting hard disk systems to work with your MBC-775. I do not remember hearing from you but if you had contacted us, we would have provided you with a list of controllers we have tested and our PC compatible computer line.

Among the controllers we have found to work satisfactorily are:

Adaptec 2010A  
DTC  
SMS Omti 5510 (half size for the MBC-675)  
Centan NDC 5027  
Xebec

Western Digital also claims they have a board that has been modified for the Sanyo line (it requires a ROM that can be accessed at 8 MHz). We have not had the opportunity to test the board yet.

Be aware that all the controllers (except the Adaptec 2010A) require a ROM that matches the drive type. Consult the manufacturer of the controller for details as to which ROM must be used. The Adaptec allows the user to choose the parameters of the drive via software.

**Q.** I would like to say how much I enjoy your magazine. Being the owner of a Sanyo MBC-555, I find your magazine very helpful. I've run into a problem with finding hardware or programs that will do computer graphics on this machine.

I'm a commercial artist with an associate's degree in computer programming. My wish is to design logos and illustrations and also to digitize video composite signal from a video recorder into my computer and be able to manipulate a still frame.

I have the Picasso program and love it very much. I have, in fact, designed a logo with this program, but using a joystick is very difficult. Is there a graphics tablet I can purchase that will work on this program, or will the program have to be rewritten to handle such a request? If I'm not mistaken, the graphics tablets input through the RS-232 port.

My needs are to utilize my computer in design using a pen or graphics board. I have my own video equipment and would like to input a still frame from video into my computer. I would like to be able to change and print this illustration onto my Epson printer or to output the final result back to video.

My let-down is, all these great things are available for the IBM PC and I don't know if they will work on the Sanyo. Please let me know of such a program and graphics tablet are available for the Sanyo.

Guy Fanguy  
Houma, LA

**A.** It is possible to add a serial port to the MBC-555. Sanyo sells such a product.

Unfortunately, adding a serial port is not enough to get many software packages to work. Most of the software that makes use of a serial port to run device drivers for graphics tablets and mice, will probably not work with the MBC-555. This is because the port addresses on the Sanyo are different from those on the IBM PC and the actual UART used has a different structure.

If you would like to write your own software to make use of the serial ports, Sanyo will provide you with the information needed. However, patching existing software to work with a different UART can be very difficult.

**Q.** I am an avid reader of SOFT SECTOR and I enjoy reading solutions to Sanyo user problems. I am also a Sanyo user with a problem, but my computer is a Sanyo 1250 which is not featured in SOFT SECTOR. The 1250 is CP/M 2.2 operated with high resolution graphics, (640 by 400) green monitor. It runs MicroPro software such as WordStar, DataStar, etc., and a graphics program which works very well on the screen but will not print

either on a Tally 180 T or an Epson dot matrix printer. The manual gives an HCOPY command which should print from the screen. I have exhausted all possibilities including modifications with the ROM utility.

I would like to know if you are aware of a solution to this problem or if you know of other 1250 users who have solved the problem.

Andy LaCombe  
New Rochelle, NY

above mentioned drives are the ones that Sanyo uses and the ones we recommend.

If you want to copy the files from a single-sided to a double-sided disk, do the following:

- 1) Format a double-sided disk.
- 2) Put the blank, formatted, double-sided disk in Drive A and the single-sided disk in Drive B.
- 3) Use the COPY command to copy all the files from Drive B to Drive A (i.e. COPY B:\*. \* A:).

Reference manuals are available from your Sanyo dealer. If your dealer does not have the manuals, he may order them from Sanyo. You may call Sanyo Business Systems directly to get the location of your nearest dealer. The number is (201) 440-9300.

PC-DOS 3.1 runs on the MBC-775/885/675. Sanyo will not be introducing a version of MS-DOS 3.1 for these machines. We will supply MS-DOS 3.1 for the new 80286 based computer — the MBC-990 series.



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# DESIGN AND PRINT

## YOUR LETTERHEAD

By Sue Anderson

**F**or those of us fortunate enough to own a small business and a Sanyo computer, it is easy to design and print a very nice letterhead. We will utilize a batch file, the *Sketch-It Version 2* program (SOFT SECTOR, January '85, a screen dump and your printer capabilities. Depending on how much memory your screen dump requires, this batch file may require more than 128K to execute. I have copied all of this onto my *WordStar* disk so I can print out the letterhead each time I write a letter.

First, type in *Sketch-It* as mentioned above (it's a shame if you haven't already done so as this is a very versatile program). Then you use this program to design your own letterhead logo. Note that you need to consider placement of the logo on the screen so that you can later "dump" it to an appropriate placement on paper. My screen dump prints graphics sideways so my logo actually had to be drawn on the screen, rotated 90 degrees in the upper right-hand corner. (This does make for a slightly sore neck when drawing the logo.)

I found it easier to draw my logo somewhat larger than wanted and then to reduce the size and place it properly using *Sketch-It's* "Insert" option. This made for better detail. Though not really a problem here, as you'll soon see, another hint is when using a screen dump, it automatically dumps everything on the screen, which in *Sketch-It* includes the "Press any key . ." line at the bottom. I have changed Line 255 in the program to eliminate that and simply have to remember to press a key when I want to return to the opening menu.

Now that you have designed your logo, you again have to return to *Sketch-It* and type in Listing 2 on Page 69, using the name you have given your logo in lines 5000 and 5002. Try running this program and see how it looks.

We now need to make a small change in this program to stall the computer so we have time to print your logo before it tips on to the next step in the batch file and so that the Ready prompt does not erase part of your drawing.

You may want to copy your LISTING2 file before modifying it so it is reusable with another program. Then change Line 5020 as indicated below and add Line 5021. Your Line 5021 may need to be slightly different as you will want to substitute your screen dump's command at CTRL PF2, which is my screen dump's print command. The changes are:

```
5020 NEXT X:ON ERROR GOTO 0:CLOSE  
5021 LOCATE 21,1,0:PRINT "Press CTRL PF2; when picture is drawn, press BREAK; realign paper; then type system."  
5022 RETURN
```

Step three is to design the text that you want at the top of your letterhead. You may wonder why I have not simply used the text options in *Sketch-It*, as this is probably an easier option and one some of you may want to consider. Since my screen dump prints sideways, it does not utilize the full width of the paper and makes for a letter that looks somewhat cramped. Therefore, I have chosen to use the programming options available in my Olympia Compact NP printer.

There may be a more elegant way to format text on the page but this was the easiest way for me. Line 5019 sets the line feed at 1/4-inch and the remaining lines select the print type and carriage returns as well as perform the actual printing. You will obviously need to consult your printer manual.

It is finally time to gather all of these pieces into a batch file. It may be helpful to consult the article on "The Wonders of Batch Files" by J. Weaver Jr., SOFT SECTOR, February '85. Under MS-DOS 2.11 you simply need to type in COPY CON

Sue Anderson is an ACSW child and family therapist by profession. She enjoys raising Afghan hounds and writing and has been published in both family and Afghan journals. She has owned a Sanyo computer since November 1984 and may be contacted at 4301 Kingsdale Drive, Valparaiso, IN 46383.

"filename".BAT, your commands, and finally CONTROL-Z by itself as the last line of your file. My batch file is simply:

```
COPY CON "DOGLETHD.BAT"
FF/I
BASIC"GRAPHMER.BAS"
BASIC"DOGLETHD.BAS"
CTRL-Z
```

To explain the above commands, FF/I is the command to load *Freeze Frame* (my screen dump) into memory, where it simply waits until you are ready to use it. The second command will load BASIC and then execute the GRAPHMER program which is what I named Listing 2 from

*Sketch-It* (don't ask why I chose that name because I simply can't remember). The final command will again load BASIC since control had been passed back to the system and will then execute the file which tells the printer how and what text to print.

Running this batch file is not completely automatic as you need to tell your computer when to print the logo and possibly to realign the paper. But get it started by simply typing in the name of your batch file; mine is DOGLETHD. The computer should first load your screen dump, BASIC will then be loaded and soon your drawing will appear on the screen. When your Ready prompt appears at the bottom, tell your screen dump to print.

With my screen dump, I can press BREAK as soon as the logo is printed so I don't have to wait for it to go across the rest of the monitor screen, and so it doesn't print what I have placed in the lower left-hand corner of the screen. The computer is now waiting for you to pass control back to the system so it can complete the batch file. You may need to first back your paper up a little so that the text you are going to print next is beside your logo. Then, simply type SYSTEM and BASIC will load. Your printer file, and finally your business name and address will be printed out.

All of this is not nearly as difficult as it may seem and once done, very easily prints a professional letterhead.

#### The listing: DOGLETHD.BAS

```
5919 LPRINT CHR$(27);"2";
5921 LPRINT CHR$(27);"1";CHR$(56);:LPRINT"
8":LPRINT CHR$(27);"W";CHR$(9);:LPRINT CHR$(19);
5923 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
TERRY & SUE ANDERSON"
5925 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
369 BRINER ROAD"
5927 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
MARION, IN 46953"
5929 LPRINT CHR$(27);"1";CHR$(52);:LPRINT"
(317)662-9333"
```

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## BASIC TRAINING

# Timing Your Long-Distance Calls

By Fred Blechman  
Soft Sector Contributing Editor

### Running the Program

Figure 1 shows the initial screen and Figure 2 is a run beyond that point. If you request specific instructions with a '1' for "yes," then the additional screens describe the general rules and discount periods for long-distance calls. However, these rules and time periods may vary in your area, so consult the front pages of your local phone book for the information that applies to your locality.

### Rate Information

You'll need to refer to your phone book before making the call to determine the rates that apply to the specific destination being called at the time you're calling. You can also get rate information from your information operator.

### Entering Data

You'll be asked for the initial time period. This is (usually) three minutes for operator-assisted calls or one minute for direct-dial calls. Next you enter the charge for the initial time period, then the charge for each additional minute.

The screen clears and waits for you to press ENTER. Make the call and when the party at the other end picks up their receiver, press the ENTER key. This clears the screen again and starts the timing.

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## Screen Display

A summary of the data you enter (phone number and rates) is displayed, and an empty rectangular box is drawn using graphics characters. Notice that about two seconds is used before the display starts counting down, so the initial countdown number is either 58 (for a one-minute initial rate) or 178 (for a three-minute initial rate.)

Under the empty box is the reminder to press BREAK to stop the program. As the seconds count down nothing else happens until the countdown reaches zero, when the total charge and total time appear in the box. This is updated at the end of every minute.

## Accuracy

Don't expect the counting of seconds and minutes in this program to be perfectly accurate. The count is affected by both ambient and computer temperature, and varies from one machine to another. The counting is controlled by the FDR/NEXT loop in Line 690. I found the number 616 with my Sanyo 550 to yield an accuracy of within a second in five minutes.

To speed up the counting, change the number 616 in Line 690 to a lower number. Even one count makes a small difference over a minute. To slow down the counting, make 616 a higher number. Use a stopwatch or second-counting digital watch to compare the screen counting with your accurate reference.

## Program Modules

100 — 260	Program introduction
300 — 390	Data input
400 — 440	Data summary
500 — 540	Draw empty rectangular box
600 — 730	Countdown, calculate and update
1000 — 1220	Additional instructions

Figure 1: Toll-Charge Initial Screen

### Phone Toll-Charge Program

Use this program whenever you make a telephone call out of the local area - especially long distance. The display will show you how many minutes you have been charged, the cost so far, and the number of seconds to the next additional charge, counting down . . . . .

Who are you calling? (123) 456-7890

Do you want specific instructions? Yes=1, No=2? 1

Figure 2: Toll-Charge RUN

Your charges are based upon three things:

- 1) Initial time period (1 or 3 minutes)
- 2) Initial charge (for the initial period)
- 3) Additional charge per minute after initial period

If you use an operator to assist you, the initial time period is 3 minutes. Direct-dial is 1 minute.

The charges are based on the destination called. These are usually listed in the front of phone book, or call operator for the rates.

Do you want information on discount periods?

Yes=1, No=2? 1

There are two discount rates in the continental U.S.A.:

35% discount: 5 p.m. - 11 p.m. Sunday - Friday  
8 a.m. - 11 p.m. holidays

60% discount: 11 p.m. - 8 a.m. every night  
8 a.m. - 11 p.m. Saturday  
8 a.m. - 5 p.m. Sunday

Charges are based on time at calling point.

Press Enter to enter time and charge data . . . . ?

### Telephone Toll Totalizer

What is the initial time period (minutes)? 1

What is the initial charge (cents)? 25

What is the additional charge per minute (cents)? 17

When the party at other end picks up the receiver press Enter to start timing . . . . ?

On your call to (123) 456-7890 . . . .  
The initial cost of the first 1 minute(s) is: \$ .25  
the additional cost per minute is: \$.17

Seconds to the next additional charge: 31

The total charge is now: \$.59

Total time charged is now: 3 minutes

Press break to stop counting.

## The listing: TOLLCHG.BAS

```

100 REM ****
110 REM * (C) COPYRIGHT FRED BLECHMAN 1984 *
120 REM * Telephone Toll-Charge Program *
130 REM * For Sanyo MBC 550/555 *
140 REM ****
150 REM * LINE 690 CONTROLS THE SECOND-COUNTING ACCURACY *
160 CLS : PRINT : PRINT : PRINT TAB(25):
170 PRINT "PHONE TOLL-CHARGE PROGRAM": PRINT : PRINT
180 PRINT TAB(10)" USE THIS PROGRAM WHENEVER YOU MAKE A TELEPHONE CALL"
190 PRINT TAB(10)"OUT OF THE LOCAL AREA - ESPECIALLY LONG DISTANCE. THE DISPLAY
*
190 PRINT TAB(10)"WILL SHOW YOU HOW MANY MINUTES YOU HAVE BEEN CHARGED."
200 PRINT TAB(10)"THE COST SO FAR, AND THE NUMBER OF SECONDS TO THE NEXT"
210 PRINT TAB(10)"ADDITIONAL CHARGE, COUNTING DOWN....."
220 PRINT : PRINT TAB(10):
230 INPUT "WHO ARE YOU CALLING....";B$;PRINT : PRINT TAB(10):
240 INPUT "DO YOU WANT SPECIFIC INSTRUCTIONS? YES=1,NO=2";A
250 IF A=1 GOTO 1910
260 CLS : PRINT : PRINT : PRINT TAB(25):
270 PRINT "TELEPHONE TOLL TOTALIZER": PRINT : PRINT TAB(10):
280 INPUT "WHAT IS THE INITIAL TIME PERIOD (MINUTES)?";P
290 PRINT : PRINT TAB(10):
300 INPUT "WHAT IS THE INITIAL CHARGE (CENTS)?";I
310 PRINT : PRINT TAB(10):
320 INPUT "WHAT IS THE ADDITIONAL CHARGE PER MINUTE (CENTS)?";N
330 CLS : PRINT : PRINT : PRINT TAB(10):
340 PRINT "WHEN THE PARTY AT OTHER END PICKS UP THE RECEIVER":PRINT TAB(10):
350 INPUT "PRESS ENTER TO START TIMING...";AS
360 CLS : PRINT : PRINT TAB(10)" ON YOUR CALL TO ";B$;"....."
370 PRINT TAB(10)"THE INITIAL COST OF THE FIRST";P;"MINUTE(S) IS: $" ;I/100
380 PRINT TAB(10)" THE ADDITIONAL COST PER MINUTE IS: $" ;N/100
390 LOCATE 29,23;PRINT "PRESS BREAK TO STOP COUNTING."
400 C=I/100:D=1
410 REM * Draw rectangle with border characters *
420 LOCATE 15,11:PRINT CHR$(281);CHR$(38);CHR$(285));CHR$(107)
430 FOR Z=1 TO 1
440 PRINT TAB(11);CHR$(186);SPC(59);CHR$(186):NEXT Z
450 PRINT TAB(11);CHR$(289);CHR$(38);CHR$(285));CHR$(186)
460 REM * Countdown and update display *
470 T=58
480 IF P=3 THEN T=178
490 GOTO 670
500 LOCATE 16,22:PRINT "THE TOTAL CHARGE IS NOW:$";C;
510 LOCATE 18,19:PRINT "TOTAL TIME CHARGED IS NOW:";P+D;"MINUTES"
520 T=59:D=D+1
530 C=C+(N/100)
540 REM * CHANGE THIS COUNT IF NECESSARY FOR ACCURACY *
550 FOR Z=1 TO 616: NEXT Z
560 LOCATE 9,18:PRINT "SECONDS TO THE NEXT ADDITIONAL CHARGE:";T
570 T=T-1
580 IF T=-1 GOTO 640
590 GOTO 690
600 REM * Instructions if requested *
610 CLS : PRINT : PRINT TAB(10)"YOUR CHARGES ARE BASED UPON THREE THINGS:"
620 PRINT : PRINT TAB(10)" (1) INITIAL TIME PERIOD (1 OR 3 MINUTES)"
630 PRINT TAB(10)" (2) INITIAL CHARGE (FOR THE INITIAL PERIOD)"
640 PRINT TAB(10)" (3) ADDITIONAL CHARGE PER MINUTE AFTER INITIAL PERIOD"
650 PRINT : PRINT TAB(10)"IF YOU USE AN OPERATOR TO ASSIST YOU, THE INITIAL"
660 PRINT TAB(10)"TIME PERIOD IS 3 MINUTES. DIRECT DIAL IS 1 MINUTE."
670 PRINT : PRINT TAB(10)"THE CHARGES ARE BASED ON THE DESTINATION CALLED...."
680 PRINT TAB(10)"....THESE ARE USUALLY LISTED IN THE FRONT OF PHONE BOOK"
690 PRINT TAB(10)"...OR...CALL OPERATOR FOR THE RATES."
700 PRINT : PRINT TAB(10)" DO YOU WANT INFORMATION ON DISCOUNT PERIODS?"
710 PRINT : PRINT TAB(10):::INPUT "YES=1, NO=2";B
720 IF B=2 GOTO 390
730 CLS : PRINT : PRINT TAB(10)"THERE ARE TWO DISCOUNT RATES IN THE CONT. U.S.A.
*
740 PRINT : PRINT TAB(10)" 35% DISCOUNT: 5PM - 11PM SUNDAY - FRIDAY"
750 PRINT TAB(10)" 8AM - 11PM HOLIDAYS": PRINT
760 PRINT TAB(10)" 60% DISCOUNT: 11PM - 8AM EVERY NIGHT"
770 PRINT TAB(10)" 8AM - 11PM SATURDAY"
780 PRINT TAB(10)" 8AM - 5PM SUNDAY"
790 PRINT : PRINT TAB(10)"CHARGES ARE BASED ON TIME AT CALLING POINT!"
800 PRINT : PRINT : PRINT TAB(10):
810 INPUT "PRESS ENTER TO INPUT TIME AND CHARGE DATA...";AS
820 GOTO 390

```

# Real Men Don't Use Floppies

THAT'S RIGHT! And neither do computers with real jobs to do. You see, floppies have very limited capacity with slow access speeds and data transfer rates. Impotent, so to speak. Between 70 and 90 percent of your computer's time is spent while data is getting up to the screen or to a printer or to memory. Such a waste of valuable time ... and unnecessary, too.

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**W**ould you like to get 512K of memory for \$50? Impossible you say? Not if you use a hardware upgrade technique called piggybacking.

Is piggybacking some crazy hacker technique? Not unless you consider IBM a crazy hacker. Did you know that IBM uses the piggybacking technique to increase the memory in their AT model computer?

Then what is piggybacking? Basically, piggybacking is soldering extra memory chips on top of the socketed memory chips on the main computer board. In this way you pick up all of the signals from the chip below.

The extra memory chips are then controlled by wiring their CAS lines (chip select lines) together in banks. Sanyo must have originally had a 512K computer in mind when they designed the computer because the signals to control four additional banks of memory are present on the board without adding anything.

Would you like to try piggybacking? Well, it's not for everyone. Read on.

#### Who Should Not Piggyback

If you are not familiar with soldering, it might be better to ask one of your more skilled friends to do it for you. While piggybacking is easy, the use of a wrong soldering device, or sloppy soldering could damage your computer.

Also, by doing the piggybacking, you might void your warranty. If your computer is still under warranty, it might be to your advantage to wait until it is not. However, if you are familiar with soldering, and your computer is not under warranty, you're going to find this project fun. And you're certainly going to save yourself a bundle of money!

#### Things To Do Before Piggybacking

Before you start on the piggybacking project, make sure you have a DOS which will work with the increased memory. In this way, after you have done the upgrade, you will have a DOS to check your work with.

You can alter DOS 2.11 that comes with your Sanyo (Mega-DOS, SOFT SECTOR, January '86). Make the DOS changes as shown, then put the disk in a safe place for later use.

If you're not familiar with DEBUG, or would rather not become involved with the software end, our own tests have

# Piggybacking

By Bob Jack

shown that DS-DOS PLUS (from Michigan-Tron) works well with this method of memory increase.

Second, alter the power supply as shown on Page 10 of the October '85 issue of SOFT SECTOR. The increased memory will add an increased drain on the power supply, so for the piggybacking to work correctly make this alteration.

Third, you will need 48 4164-15 chips. These are 64K dynamic RAM memory chips. Sanyo's specifications call for 150 nanosecond chips. These chips can be gotten from any of the many mail order dealers. A couple of tips. Do business only with a reputable dealer and get only first quality chips.

Fourth, you will need four 1K ohm  $\frac{1}{2}$  watt resistors, very fine rosin core solder (.032 diameter), some plastic coated hookup wire and some plastic electrical tape. For this, take a ride down to your local Radio Shack store.

The resistors come in a pack of five. Catalog number 271-1321. The rosin core

solder comes in a 2.5 oz. spool, Catalog number 64-0005. Get the stranded variety of hookup wire, the thinner the better. Any variety of plastic electrical tape.

As for equipment, you will need a Phillips head screwdriver, a single edge razor blade, and a very light soldering iron (not iron, not pistol, not blowtorch). A Weller soldering pen with a  $\frac{1}{8}$  inch screwdriver tip will work great.

Gather all your equipment and supplies together before beginning the piggybacking project.

#### The First Step

The first step is to solder the resistors together (setting up the stacks). Basically what you will be doing is soldering four chips on top of one another. Bend Pin 15 out of the top two chips before soldering. See Figure 1 for details. In other words no change to the bottom chip. On the top chip, bend Pin 15 straight out, then solder the remaining pins to the pins

bottom chip. Now you have a stack of two, with the top chip having its Pin 15 sticking out.

On the next chip, bend Pin 15 straight out then solder the remaining pins to the pins on the top chip of the stack. Now you have a stack of three chips with the top chip having their Pin 15 sticking out.

This is a complete stack. Repeat this procedure, until you have 16, three-chip stacks.

When you place one chip on top of the other, make sure they are facing the same way (the notches are both in the same direction).

Do not push the chips down all the way leave a little space between them. The top of the pins of the upper chip should only about one fourth way (or less) on the pins of the lower chip before soldering.

#### The Second Step

The second step is to set up the resistors

Take four of them, and solder them together on one end. Let the other ends hang free. See Figure 2 for details on this step.

Next, cut a piece of hookup wire about one inch long. Solder one end of it to the soldered together ends of the resistors.

Locate the small hole next to the front end of the CNI connector (hole may be filled with solder). This is an easy way to tap into +5 volts.

Solder the free end of the hookup wire into the hole. And finally for this step, cover all exposed wires, up to the resistors with plastic electrical tape.

#### The Third Step

The third step is to wire the CAS lines of the memory chips. See Figure 3 for details on this step. The memory chips are shown spread out so you can see the wiring. Insert each of the 16 stacks of chips into the sockets. Make sure the notch on the chips is facing the back plate of the board.

Next, cut a piece of hookup wire about

two feet long. Begin at the other side of the board, away from the CNI connector. On the front row, solder the wire onto the middle chip's Pin 15 (which is sticking out).

Peel the insulation away from the wire, about one-fourth inch long, one and a half inches from where you have just soldered. Solder this exposed portion of wire onto the next in the row, middle chip's Pin 15. Repeat this procedure, until you have all eight of the middle chip's Pin 15s, in the front row, wired together.

Peel away a small portion of the insulation and solder the exposed portion of the wire onto one of the ends of a resistor. Cover the exposed part of the resistor which you have just soldered with plastic electrical tape.

Lead the wire over to Chip 74LS138 (Location 11G — marked on the board U82). Put a dab of solder on the leg of Pin 7 as it comes out of the chip. Put another dab of solder on the end of the hookup wire. Hold the wire end onto Pin 7 and touch it with your soldering pen, melting the solder together. Remember, heat damages computer chips. Also, be careful not to drop any solder or make any solder bridges. At this point, stop for a second and pat yourself on the back. You've just wired in one bank.

Repeat this process on the middle chips in the back row. Connect onto one of the other resistors and solder the end of the wire to Pin 9 of the 74LS138. Do the same thing for the upper chips of the front row. Use Pin 10 of the 74LS138, and finally, the upper chips of the back row. Use Pin 11 of the 74LS138.

#### The Fourth Step

All you need to do now is cut a trace and put a jumper on.

Find chip 74LS02. It's located at 11E and the board is marked U65. Turn the board over, and with a single-edge razor blade, cut the trace going to Pin 8. Turn the board back over to the chip side. Cut a piece of hookup wire about one inch long. Put some solder on both ends. Put a dab of solder on the top of Pin 8 and on the top of Pin 9 of the 74LS02 chip.

In the same way you soldered the other lines, solder one end of the wire to the top of Pin 8. Bend the wire and solder the other end to the top of Pin 9.

Go over the entire job, put plastic electrical tape over any exposed wires, joints, etc. Push all the wires down, as flat as possible on the board.

That's it. You now have a Half-Meg computer and you did it yourself! What's more important, you probably saved yourself a bundle of money.

#### Testing

Put the computer back together. Make sure you put all the plugs together correctly and put the cover back on. Do not put the screws into the cover until you have tested the increased memory.

Turn the computer on and put your *Mega-DOS* disk in Drive A. The DOS should boot as normal.

Next, run the *CHKDSK* program. It should come back and tell you that you have a total of 523776 bytes of memory. Also, it should tell you that you have 40K and some odd thousand bytes of free memory (total and free depends on what DOS you are using).

You will not need a memory checking program because the DOS checks the memory for you. *CHKDSK* will show less than the full amount if there is a problem with the memory. More than likely everything will check out correctly. If so, put the screws into the cover and jump over the trouble-shooting section.

### Trouble-Shooting

If the drives do not turn on, don't panic. Turn the computer off. You have not cut the trace correctly or put the jumper on correctly. Go over Step 4 and correct the problem.

If the *CHKDSK* program shows that you have less than the 512K total bytes, you have not wired a bank correctly or you have a bad memory chip.

You can determine which bank is giving you a problem by subtracting 65536 from 524288. The 65K represents one bank, and the 524K represents total possible memory. The banks are set to come off of the 74LS138 in the order of 7, 9, 10, 11. Where 7 is the next bank after 256K, and 11 is the top bank. All good memory above a troublesome bank will not be shown.

Should you have a problem with the extra memory, turn the computer off. Determine which bank is giving problems. Go over steps one, two and three with that bank. Correct the problem.

If there is no problem, you may have a bad memory chip and may have to replace the chip or the bank. Generally, having a bad chip is rare unless an excess amount of heat (by using the wrong soldering device) has been applied to the chip or the chip has been exposed to static.

Outside of the pure pleasure of tinkering with your computer, you've probably saved yourself \$200 to \$500 dollars by piggybacking — as opposed to any other method of increasing your memory.

So what do you do with all that extra memory? Well, when you get that much memory, it expands the power of your computer enormously.

You can now construct giant spreadsheets. You can now run memory resident programs (*CornerMan*, *Omega*, *Side-Kick*, etc.) with your largest programs. When you run Sanyo's BASIC, you have 370K or so free. And the best application of all is running a RAM disk. This speeds up any program which uses the disk a lot, to the speed of memory access.

Give piggybacking a try — you and your wallet will like it.

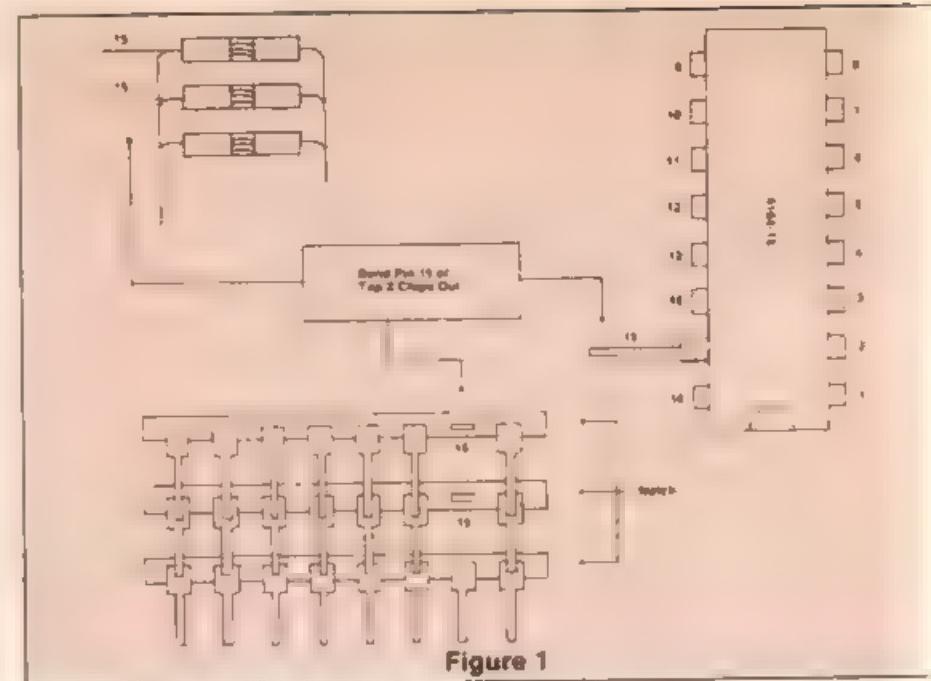


Figure 1

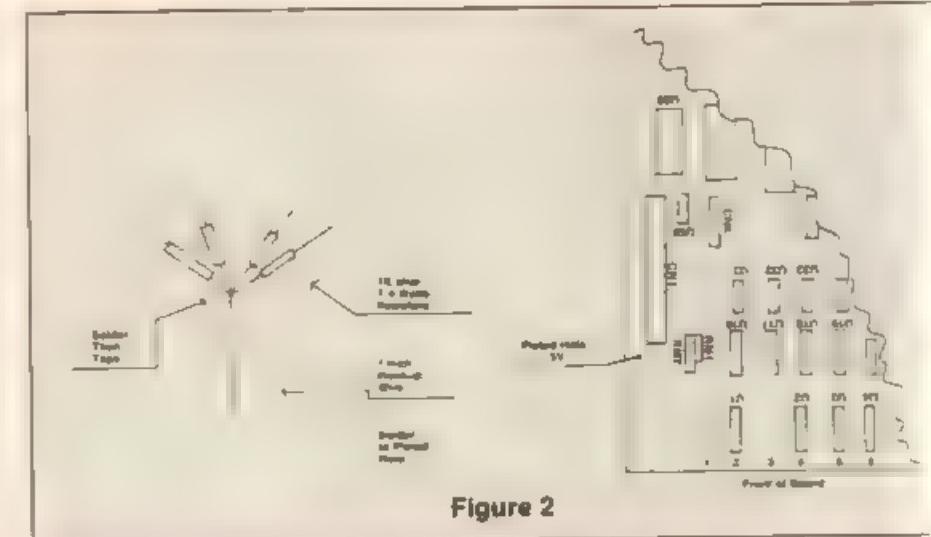


Figure 2

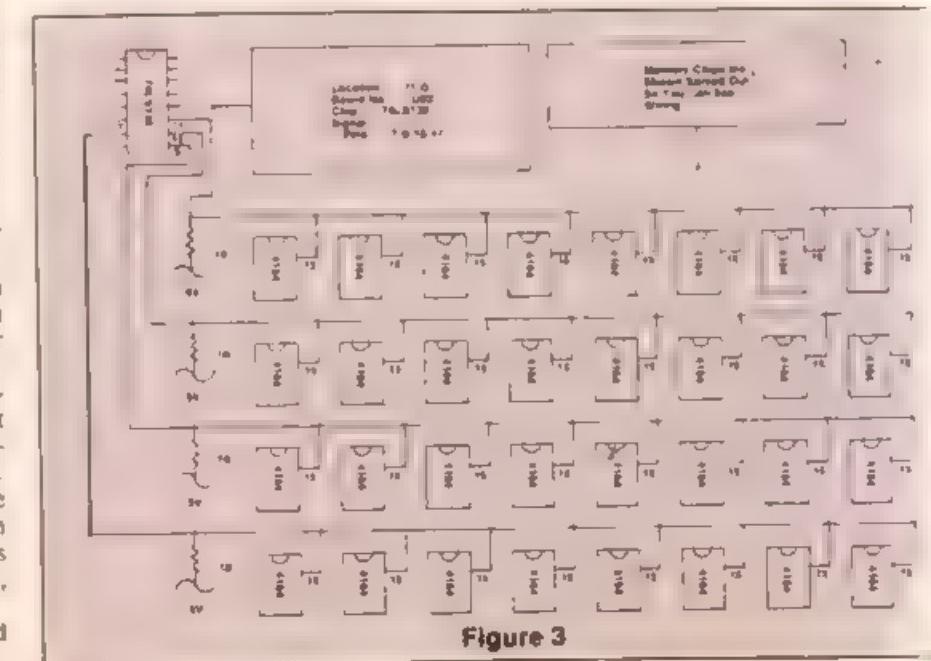


Figure 3

## REVIEWS

### Software review

## Thoroughbred Handicapper — An Odds-On Favorite

There you are at the track, your white suit glistening in the sun. Time for the fourth race. Calmly you look over the printout you made the night before. "Looks like Dead Cat is to bet," you say to yourself. You make your way to the window and at the last moment, you put \$100 on Dead Cat to win. The blonde behind you says "Dead Cat? Dead Cat is going down at 10 to 1!" "No sweat, baby, easy come, easy go."

You go back to your seat and take another sip of mint julep. You keep your composure as Dead Cat wins by seven lengths. Then you look over your printout for the fifth race.

An unlikely scenario? Maybe, but *Thoroughbred* by Federal Hill Software will help make it just a little more likely. *Thoroughbred* was written by Leonard Hyre. If you read SOFT SECTOR, you know Leonard Hyre by the excellence of his software. *Thoroughbred* won't do anything to damage his reputation.

I don't get the idea that you are being promised a free ticket to wealth. That is not the case. If you are the leading handicapper in your part of the country, you probably don't need a computer program to tell you how to bet. If you just go to the track now and then, buy *Thoroughbred* and try it.

From where I work, I can look out the window and see the famous twin spires of Churchill Downs. Although I don't know much about the sport, I have been there a few times. I know many people who know more about racing than I, and I asked them to help me evaluate this program. They all found it useful or even raved about it. My friend, Mike, found that if he money on *Thoroughbred*'s pick to show, he could cash in a bet for every race. Several people said you can't make money that way. You have to bet to win. Friends, I can assure you that if you bet to win, you will not cash in a ticket on every race.

If you could, I wouldn't be writing this review. I would be at the track getting so rich I'd have to hire an accountant. Federal Hill does not promise wealth. What they do say is that *Thoroughbred* is a useful and accurate handicapping program. From what I have seen, they are absolutely correct. *Thoroughbred* is right 75 to 85 percent of the time when given

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the correct information. My friends tell me that any good handicapper can do as well. That's great if you are a good handicapper. Most people are not.

I have been told that *Thoroughbred* is more suited to East Coast tracks than to Midwest tracks. For example, the program suggests that you not bet on shippers. Churchill Downs runs a lot of shippers. It is not built to house enough horses for a whole season. Be that as it may, *Thoroughbred* works well at Churchill Downs. It certainly works better than any of the tips I have been given on my few visits to the track.

If you have any interest in horse racing at all, I suggest you purchase a copy of *Thoroughbred*. There are also programs in the same series for dog racing and harness racing. There is some harness racing in Louisville, but no dog racing. If either of these is your passion, I suggest you look into the programs from Federal Hill. I assume they are as good as *Thoroughbred*, but I have not looked into them myself.

*Thoroughbred* runs on everything. It runs on the MBC-555 with or without the video board. It runs on the MBC-775, the IBM PC, Compaq, Zenith, Columbia and others. It does not run on the Corona due to a difference in the way the Corona handles color commands. A Corona with a color card presents no problem.

Don't forget to wear your white suit to the track. If you should come to Kentucky during the spring meet, whatever you do, don't drink a mint julep. Those things are for tourists only. Do bring *Thoroughbred* and a portable computer to run it on. Above all, stay cool.

(Federal Hill Software, 825 William Street, Baltimore, MD 21230, 301-547-1447, \$49.95)

— Jim Pile

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## Astrology — A Valuable Tool for Professional Astrologers

Very few of us ever pass by the horoscope column in our daily newspapers without a quick scan to see if there's some pertinent information we can use. Most horoscopes are exceedingly bland and generalized and appear vaguely worded. Occasionally, there's a concrete statement such as "expect good news from a distance," and in your afternoon mail there's a postcard from your old college roommate vacationing on the French Riviera wishing you were there to share the wonderful time. While gritting your teeth in pretended nonchalance, you remember that horoscope and chuckle ruefully.

The fact is most horoscopes, particularly those in newspapers, deal only with the sun sign because that is the one piece of information everyone knows about. But astrology is perhaps the oldest body of knowledge on this planet and deals with the configuration of all the planets. In this way, like astronomy, astrology seeks to determine the position of heavenly bodies at any given time. One is a science and the other is an art.

There is a great deal of math involved in both pursuits and this can prove daunting to anyone, particularly the self-teaching neophyte. To the rescue comes *Astrology* by Prickly-

Pear Software, a program that uses your Sanyo to compute and display the planets' positions and relationships in a natal horoscope.

*Astrology* will run with 128K and the disk comes with a four-page pamphlet explaining the operation procedures. The documentation's last page is a list of books on astrology to help students further their understanding and interpretation skills. *Astrology* itself does not offer any interpretation, rather it handles only the mechanics of charts.

I am hesitant to classify myself as an amateur astrologer because I haven't devoted enough time to this study to qualify as even an amateur. I prefer to think of myself as a gifted dilettante. I am very familiar with my own natal chart and that of my family's and my friends'. *Astrology* displayed in two minutes a chart I remember taking eight hours to compile.

*Astrology* accepts the birth information in the usual form—date of birth, year, time of day, time zone (calculated in hours away from Greenwich Mean Time, i.e., EST=5) and longitude and latitude (you must be prepared to supply this data yourself).

Next appears a list of the planets with the degree, arc, and abbreviation of three letters and minutes (i.e., Sun=06SC02) for sun in Scorpio six degrees, 27 minutes. *Astrology* also designates a retrograde planet (traveling backward through the wheel of the zodiac because of the elliptical nature of orbit), the moon's north node and the mid-heaven.

*Astrology* allows the choice between Tropical and Sidereal charts using geocentric or heliocentric coordinate systems, as specified and ran charts under Tropical Geocentric. This is the most popular configuration as well as the border of knowledge. *Astrology* then lists the houses according to a choice of five systems: Regiomontanus, Placidus, Koch, Equal and Campanus.

*Astrology* displays aspects specified within a range of one to nine degrees, and I was delighted to see even the minor aspects displayed. For instance, my chart displayed the aspect between Mars and Uranus that earmarks the astrologer. Huh, alas, it's only a sextile, which could be interpreted as the reason I'm still a dilettante after seven years of study.

As stated before, all interpretation of a chart must come from the user, and thus the suggested reading list in the documentation. *Astrology* would prove most useful to well-read professionals inasmuch as it quickly and efficiently displays results of some complicated and complex (speaking for myself, of course) mathematical relationships. The fact that retrogrades and moon nodes are designated also points to its value to the professional astrologer. Even if you are only a student of astrology as I am, *Astrology* can provide a great tool for handling the details while you concentrate on the art of interpretation.

(Prickly-Pear Software, 2640 N. Conestoga Avenue, Tucson, AZ 85749, \$34.95, 5/H \$1.50)

— Monica Dearth

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## Query — Portfolio Management for 1-2-3 or Symphony

*Query* is a package of *Lotus 1-2-3* or *Symphony* templates that can be run on the MBC-550 555 series with at least one disk drive, the Video RAM Board, at least 256K of memory, MS-DOS 2.11, and *Lotus 1-2-3* Release 1A. The documentation provided clear and concise information concerning the running of the program options. Each option has a dedicated key.

The "Stock Record" portion of the program provides a database for the analysis and charting of stock performance. In addition, the program provides a basis for comparison, screening, sorting and formatting in the *Query* program.

All programs are menu intensive and each menu clearly leads one from one activity to the next. For this review, most of my activity centered around the supplied stock database. This database provides the user with a basis on which to experiment with all options of the program and provides an example of the type of data input required. Using a backup copy of the files allowed me to modify the database as required.

This part of the program also has outstanding graphics presentation capabilities. These range from individual stock charting to comparison charting of up to four stock issues. Those users with a color monitor will particularly enjoy this feature as each stock record is tracked with a different color.

Chapter Two covers the *Query* portion of the program. *Query* compares, screens, sorts and formats data from Stock to work files. Again, my use of *Query* was limited to the database provided. I found that all options in this portion of the program worked exactly as described in the manual. It is important to follow the text closely when learning to move in and around the program. The strong part of *Query* is the very flexible formatting of the data.

The third part of the program is entitled "Portfolio Manager." In using this program, one is able to record market transactions in the portfolio database. The user is required to supply values concerning commission base charges, brackets and the corresponding rates, and minimum and maximum commission per share that is specific to that particular account.

Once in the database, one is allowed to add, modify or delete any and all records from the database. After modifying the base, one can invoke the "Summary of Activity" menu.

Part of the program uses the *Lotus* database statistical functions to present the performance of a particular investment. Another important feature is the calculation of capital gains and losses for a particular investment. In addition, the "New Sell" analysis option can be used to model the investment performance of a given transaction.

In summary, this is a very unique and interesting program. The program is thorough and covers all details associated with a stock transaction or other investment opportunity. I found that study of the manual and working with the supplied registration files provided an opportunity to learn more details of stock transactions. For those dealing daily with investments and stock transactions, and for those who use them regularly, this program is ideal. The program does run *Lotus 1-2-3* Release 1A and *Symphony* as advertised. I ran it on a 386 with *Lotus 1-2-3* Release 2 and found no problems with this program functioning as advertised.

(Micro Realities, P.O. Box 60123, Grand Junction, CO 81506, 970-245-8358; \$125)

— Edward Champion

## Respond — A Package for the Serious Communicator

Seasoned Sanyo MBC-555 users know by now that programs labeled for "true compatibles" usually do not run on their trusty machine. Also, on the forbidden list are (to my knowledge) all terminal communication programs written for other MS-DOS machines. This is, of course, due to the hardware idiosyncrasies of our Sanyo. *Respond* is no exception; it promptly crashes on the 555 but works flawlessly (almost) on an XT clone. I assume *Respond* will work equally well on the later Sanyo series (675, 775, 875).

*Respond* is by far the most unusual and sophisticated communications package I have come across. It is not intended for, but could be used by, the average home user. It is designed for the "corporate" communicator needing efficient or automatic data and file transfers. It may prove valuable for those needing specific terminal emulators. *Respond* emulates the following: a TTY (modern day slang for what used to be done only by Teletype machines), an IBM 3101, IBM 3270 SDLC remote, IBM 3270 local, IBM 3270 BSC, IBM 5251 Model 12 (sync), a DEC VT-100 52 and the HP 2661B (async). A synchronous communications card is, of course, required for synchronous modes.

*Respond* requires DOS 2.0 or later, at least 256K of RAM and at least two disk drives. The size of the main program is a whopping 241K, and by careful setup of a system disk and a data disk, I was able to have about 306K free on the data disk. Hard disk users will not be hampered in any way using *Respond*. In other words, all of the required programs will fit on a single system disk.

What does *Respond* do besides emulate expensive terminals? Through a very elaborate, but well-designed, system of profiles, dialogues and libraries you can use any of the above terminal types, in up to 26 configurations, to perform up to 625 different communications chores. This is for one system disk, multiplied by the number of disks you can afford, to come up with the total capability of *Respond*. Even those statistics aren't quite correct. Each of the 26 "profiles" can use any of the 625 dialogues! Confused?

The profiles are used to specify the terminal type, its communication parameters (Baud rate, parity, etc.), the setup of the TAB stops, the set up of 10 user-defined function keys, the ASCII text transfer parameters, the file transfer protocol, and setup of an answerback message. Up to this point we have an ordinary terminal program. Fancy, but ordinary.

A dialogue is a specific "conversation" between your computer running *Respond* and another system. Each one consists of up to 13 lines containing the following components: Prompt, Wait, JOT, CMD, Data and Next. The dialogue is executed line by line with the combination of parameters in the Prompt, Wait and JOT determining the sequence of operations. The dialogue will wait indefinitely for characters put in the Prompt column, or if a time is entered in the Wait column, it will wait for the prompt or for the time to elapse whichever comes first. Put a dialogue line number in the JOT (jump-on-time-out) column and the execution will jump to that line number if the desired prompt is not received within the specified time in the wait column. Adding to the capability, we can put one of about 30 commands in the CMD column. Here's a partial list of the commands: Send, Accept, Decon, Deoff, Uptext, Rxmodem, Sxmodem, Snap, Call, Chain,

whichever comes first. Put a dialogue line number in the JOT (jump-on-time-out) column and the execution will jump to that line number if the desired prompt is not received within the specified time in the wait column. Adding to the capability, we can put one of about 30 commands in the CMD column. Here's a partial list of the commands: Send, Accept, Decon, Deoff, Uptext, Rxmodem, Sxmodem, Snap, Call, Chain,

Display, Return, Stop, System, Time, Clear, Cursor, Beep, Break, Discn, Sethigh, Setlow, Onhigh, Onlow, Dialdir, Dial, Aa, Aaoff, Data, Voice

Describing some of the more powerful commands, the Sethigh low commands can set the DTR and RTS lines high or low. The Onhigh low commands check the DSR, CD (carrier detect) and CTS lines and cause the dialogue to execute specific lines based upon these conditions. The Time command will wait for a specific time to arrive before progressing. This allows *Respond* to do unattended operations, an extremely useful feature. Snap stores the current 24 screen lines in a named disk file. The Calling, Chain, Return, etc., commands allow you to actually build up a "smart computer program" with subroutines to perform even the most complicated communication task. You can get a hint of what some of the other commands do from their cryptic names.

What won't it do? Other than being limited to only Xmodem file transfer protocol and ASCII text capture mode, I couldn't find any weaknesses in *Respond*. The only "bug" I found was the blinking cursor that failed to keep up with me! It would be off on one part of the screen while I was typing (without a cursor) somewhere else. I tried *Respond* with and without ANSI.SYS installed, in both the TTY and VT100 modes and had the same problem. I'm sure there is a simple cure for this annoyance.

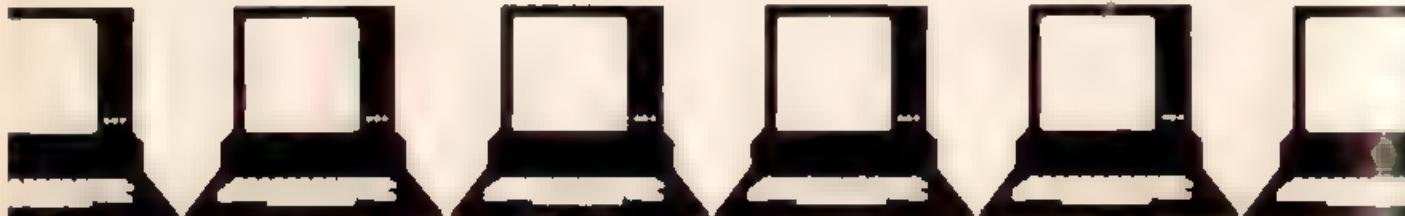
As for ease of operation and the quality of the documentation, I was at first convinced one had to be a computer whiz to set up *Respond*. But after about 30 minutes of hands-on I'm convinced anyone could conquer *Respond*, assuming they know what carrier detect means, and have the courage to punch the cursor arrows, PG UP PG DN keys and the minus plus keys. It's almost that simple to set up a profile and dialogue. *Respond* is smart enough to actually put your selection cursor on the next logical step to be performed.

Experimenting with the example CompuServe demo dialogue, modifying it to access via our local Tymnet number, I found *Respond* fairly easy to use. Unfortunately, I found out that the CompuServe Demo does not work through Tymnet, so I had to dial it long distance to try it out. Definitely needed to accomplish anything with *Respond*, is a template showing the key functions. I was miserable until I had scanned through the *Respond* text and made up a concise list of key commands. The documentation I had was Version 3.0, with errata pages to bring it up to version 3.2. I found jumping between the added pages a little frustrating. The biggest feature, and a definite plus, was the removal of copy protection from *Respond*. The documentation has information on the various terminal emulation modes, contains several example dialogues, which are also on the disks, and overall is well prepared. The schematic on Page 2-2 has an error, showing the ground wire Pin 7 of the RS-232 interface drawn incorrectly. It goes from Pin 7 to Pin 7 of course.

In summary, I think *Respond* is well worth the price. It contains unique features that will serve your business needs.

(Software Synergy, Inc., 466 Main Street, New Rochelle, NY 10801, 914-633-0400, \$195.)

— Ambrose "Bo" Barry



## Software review

### Macro-Toolkit and ASCII Toolkit — Unique and Useful

*Macro-Toolkit* and *ASCII Toolkit* are two separate programs that provide the *Lotus 1-2-3* or *Symphony* user with a straightforward method of creating and implementing macros and custom characters and displays to use within the *Lotus* environment.

System requirements for the *Macro-Toolkit* are the MK 550 555 series, MS-DOS 2.11, the Video RAM Board, 360K drive, at least 256K RAM and either *Lotus 1-2-3 Release 1A* (or 2) or *Symphony*.

*Macro-Toolkit* contains four toolkits which together present both the novice user and the seasoned *Lotus* user a set of useful, well-designed macros for repetitive and/or complicated command sequences. The Macro 1 file contains all 17 macros with help menus and requires 16K of memory. The remaining three files require from 6K to 10K of memory. In working with a spreadsheet on a 256K machine, judicious use of memory may require using the smaller macros or importing individual macros into the spreadsheet.

I found the manual instructions to be somewhat unclear; however that may be due to my limited familiarity and use of the normal *Lotus* macro capabilities. With a concentrated effort, study of the supplied manual and the *Lotus* manual, I was able to learn much and to actively use the macros. The program provided great help with even the simplest spreadsheets.

During the course of review, I found *Macro-Toolkit* to be almost indispensable for the capability and price, and the program is definitely recommended for the *Lotus* user.

The *ASCII Toolkit* is similar in set-up and use to the *Macro-Toolkit*. As the name implies, it puts the entire ASCII code in a *Lotus* worksheet.

A user has at his/her command graphics characters and symbols in order to build and enhance the appearance of *Lotus* models. As with the *Macro-Toolkit*, standard features included that allow the building of boxes (both single and double-lined) for highlighting sections of your *Lotus* model.

But again, I found the on-disk manual to be somewhat hard to understand. With study and experimentation the use capabilities of this program became more apparent. The program is unique and useful and it did find its way into my use of *Lotus 1-2-3*.

These programs are both recommended for *Lotus* users who wish to add something extra, different and useful to their models.

(MicroRealities, P.O. Box 66123, Grand Junction, CO 81506, 303-245-8358. *ASCII Toolkit* \$35, *Macro-Toolkit* \$45.)

— Edward Champion

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The IBM PC has a way of defining graphics figures in terms of direction vectors. These vectors include Up, Down, Left, Right, and four intermediate vectors, 'E', 'F', 'G', 'H', as shown in Figure 1. These vectors along with other graphics commands are stored in a string and executed with the DRAW command.

Sadly, Sanyo BASIC lacks the DRAW command, and translation of PC BASIC programs that use it, including most games, is next to impossible. With this in mind, DRAWS was born, not only to assist in program translation, but as a tool that Sanyo BASIC programmers can use in the creation of graphics for their own programs.

The REMark statements, within the DRAWS subroutine, describe the function of each part of the program. Line 9999 was added after about the 9,900th time I forgot to put an END statement at the end of the calling program and suffered through the error messages that were generated.

Type in the program listing and save it under the name DRAWS. You can then use it to try the examples in the article. To use it with your own programs, simply use the BASIC command MERGE "DRAWS" to merge it in with your own program listing.

#### Calling The Subroutine

It L\$ contains the draw instructions to be executed. PC-BASIC would execute the instruction as

50 DRAW L\$

The same instruction would be executed with DRAWS as

50 DRAWS=L\$:GOSUB 10000

#### The BASIC Motion Commands

The L-shaped figure in Figure 2 can be defined as the string L\$="D16;R14;". Note that each draw element of the string is terminated with a';'. The ';' is optional in most cases with PC-BASIC, but is absolutely required with DRAWS in BASIC.

If one of the direction vectors is preceded by a B the move will occur without plotting. For example, the cross shape in Figure 3A could be defined as the string CS="D24;B12;R24;"

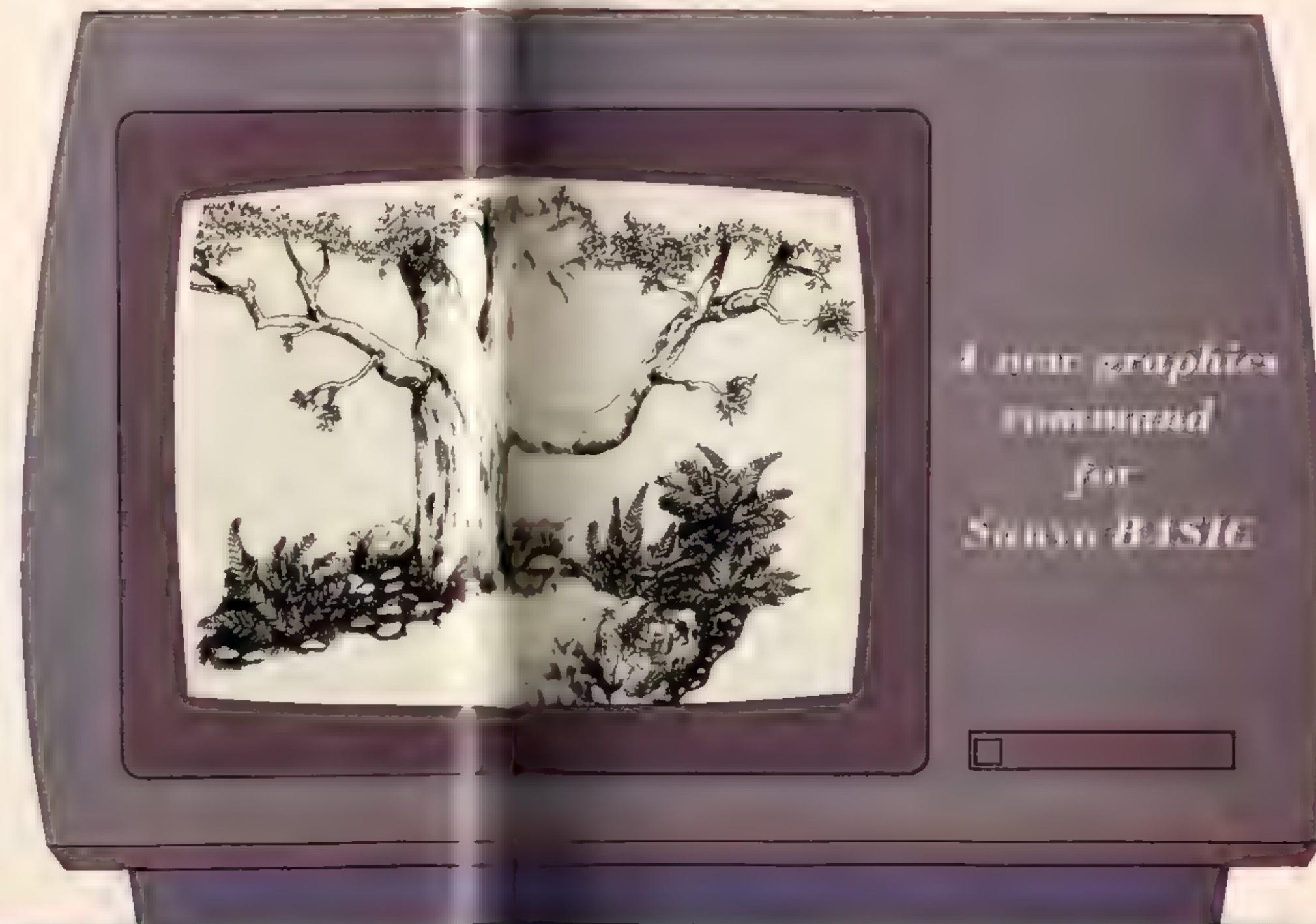
If a direction vector is preceded by an 'N' the move will occur with no position update. For example, the string CS="NU12;NR12;ND12;NL12;" in Figure 3B will plot the four arms of the cross, each time returning to the origin.

The M command is used to move to a screen starting position. It must be preceded by a 'B' to avoid drawing unwanted

## DRAWS —

By Ray C. Robinson

# A 'DRAW' Emulator for Sanyo BASIC



Ray Robinson is an electronics technician with the FAA, holds a bachelor's degree in business administration, and has been interested in home and personal computers since 1980. He may be contacted at Rt. 8, Box 725, Lake Charles, LA 70605. (318) 474-5301.

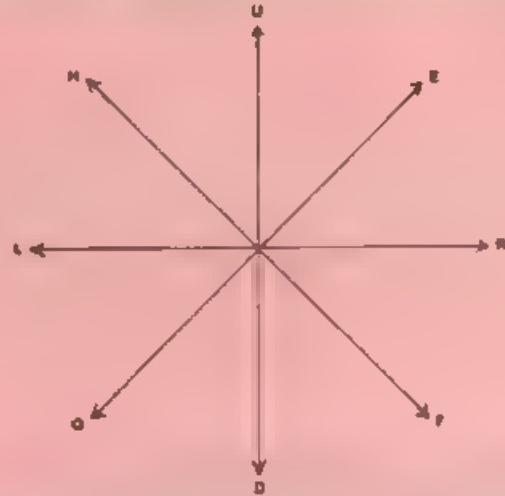


Figure 1: The draw direction vectors

lines. Its format is "BMX,Y;" where X and Y are screen coordinates. For example, the string MS="BM300,100;" will cause the starting location of the first direction vector to occur at Location 300,100 on the screen.

The following program statements will cause the cross shown in Figure 3B to be drawn at screen starting Location 300,100:

```
10 CS="NU12;NR12;ND12;NL12;"  
20 MS="BM300,100;"  
30 DRAW$=MS+CS:GOSUB 10000
```

#### Relative Moves

If you precede the X location in the M command with a plus or minus sign, the move will occur relative to the present screen position. For example, "BM+20,10;" will cause a move 20 units to the right and 10 units down from the present screen location. A command of "BM-20,-5;" would cause a move 20 units left and five units up from the present screen location. If you add the following statement to the program above:

```
40 DRAW$="BM-50,0;"+CS:  
GOSUB 10000
```

A second cross would be drawn 50 units to the left of the ending position of the first cross.

#### Scaling Shapes

If the statement "Sm;" is included in the string, all future direction vectors will be scaled according to the scale factors in Table 1. The default for n is four or full scale.

Table 1

n	Scale Factor = n/4
1	1/4 scale
2	1/2 scale
4	full scale
8	= 2 = double scale
12	= 3 = triple scale
16	= 4 = quadruple scale

Figure 2: Defining the L shape with the draw direction vectors

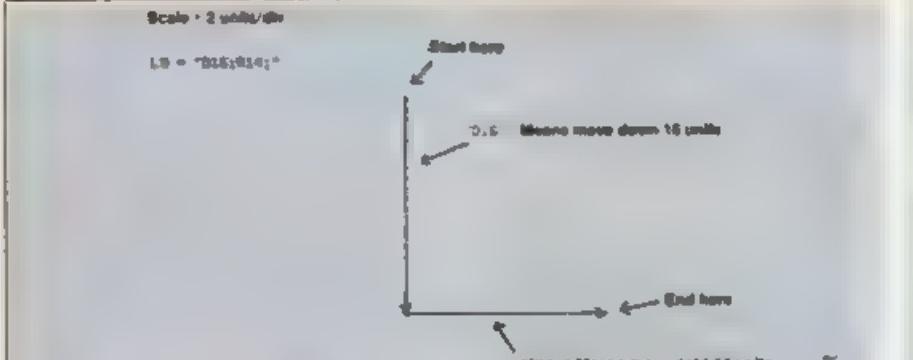


Figure 2: Defining the L shape with the draw direction vectors

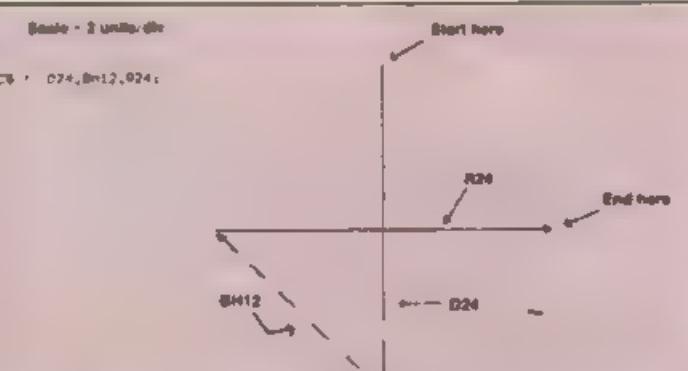


Figure 3A: A direction vector preceded by a 'B' will cause a move without plotting.

their origin in increments of 45 degrees according to Table 2. When the "An" command is executed, DRAW\$ will automatically rescale the lines of the figure so that its shape and size remain approximately the same. The default for n is 2.

Table 2

n	Angle of rotation
1	0 degrees
2	45 degrees counter-clockwise
3	90 degrees counter-clockwise
4	180 degrees counter-clockwise
5	225 degrees counter-clockwise
6	270 degrees counter-clockwise
7	315 degrees counter-clockwise

The following program lines will cause the "L" in Figure 2 to be drawn four times full scale and rotated 45 degrees counter-clockwise:

```
10 LS="D16;R14;"  
20 DRAW$="BM300,100;S20;A1:  
+L$;GOSUB 10000
```

In PC BASIC the rotation command is "An" where n is a digit from zero to seven, for rotations of zero, 90, 180 or 270 degrees. It also has the T variation "T" which causes the whole screen to rotate but this option was not incorporated in DRAW\$.

The following program lines will plot the "L" of Figure 2 in the center of the screen, four times normal size:

```
10 LS="S16:D16;R14;"  
20 MS="BM300,100;  
30 DRAW$=MS+LS:GOSUB 10000
```

#### Rotating Figures

The "An;" command in DRAW\$, where n is a digit from zero to seven, will cause the figures to be rotated around

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### The Color Commands

The string elements "Cn;" and "Pn1,n2;" are color commands where n, n1 and n2 are color numbers from zero to seven.

The COLOR command "Cn;" will cause all future lines to be drawn the selected color n. If the command is not used in your program, the lines will be drawn default color 2 (green).

The PAINT command "Pn1,n2;" will paint the inside of a shape with a specific color n1, within a color boundary n2.

The following program lines will draw the T shape in Figure 4, five times full scale. The cross of the T will be drawn with line and area color 3 (light blue), the base of the T will be drawn with line and area color 5 (purple).

```
10 TS="C3;L20:D4;R40;U4;L20;
BD2:P3,3:BG2:C5:D30:R4;U30;
L4:BF2:PS,S;
20 MS=BM300,100:520;
30 DRAW$=MS+TS:GOSUB 10000
```

Note that the direction vector immediately before the PAINT command is preceded by a 'B'. If the 'B' was omitted

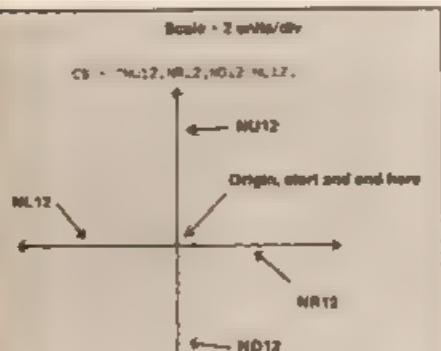


Figure 3B: A direction vector preceded by an 'N' will cause a move with no position update.

and the color of the line was the same as the boundary color, the PAINT command would not execute.

### The Circle Command

The string element "On;" is a circle command where n is the radius of the circle. This command is not available with PC BASIC. The following program lines will draw the little car in Figure 5, five times full scale, color the body light blue, then draw the wheels and color them white.

```
10 CS="C3;R12:E4;R14:D4;R12;
DB:42;J6:BF4:P3,3:C7:BF4;
03:P7,2:BR26:03:P7,2;
20 MS=BM150,100:520;
30 DRAW$=MS+CS:GOSUB 10000
```

### Some Programming Techniques

PC BASIC uses the X command to allow a string to be included within another string. This can easily be emulated with

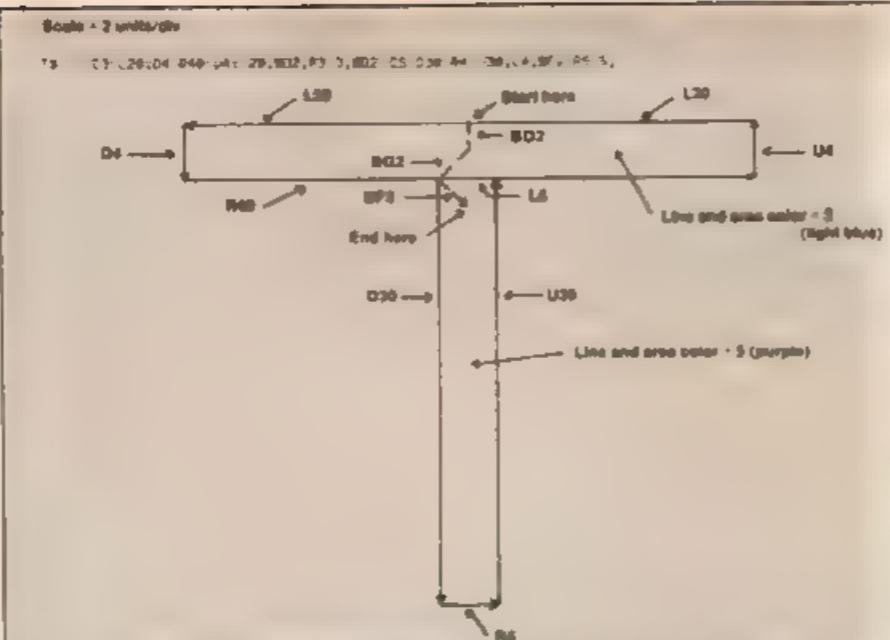


Figure 4: Demonstration of the 'C' and 'P' commands to color a figure

DRAW\$ by simply concatenating the strings. For example, the PC BASIC program line:

50 DRAW "M100,100;XAS;"  
can be emulated with DRAW\$ as:  
50 DRAW\$="M100,100;" + AS:  
GOSUB 10000

Variable	Function
X51	X-Position
Y51	Y-Position
S55	Scale
CS	Line color
ARS	Rotation factor

PC BASIC also allows the use of =n, where n is a numeric variable to be used within a string variable in the DRAW statement. This can be emulated to a great extent by setting the variables used in DRAW\$ directly from your program. For example, X51 and Y51 are the variables in DRAW\$ that represent the current screen position, the PC BASIC program lines

```
50 X=50,Y=75
50 DRAW "M=X:,Y:XAS;"  
could be emulated with DRAW$ as  
50 X51=50,Y51=75
50 DRAW$=AS:GOSUB 10000
```

Following is a list of the variables in DRAW\$ that can be changed in your program:

If the length of a direction vector is 1, then the 1 may be omitted with PC BASIC but is required with DRAW\$. For example, a box of unit length could be defined with PC BASIC as the string BS="URC". The equivalent string with DRAW\$ would be BS="U1;R1;D1;L1."

### In Conclusion

I hope you have as much fun using DRAW\$ as I did writing and experimenting with it. Find a fairly easy PC BASIC program that uses the DRAW command, and translate it for DRAW\$. Get out some graph paper and try your hand at designing your own graphics. I think the more you use it the more you will find how easy DRAW\$ing can be.

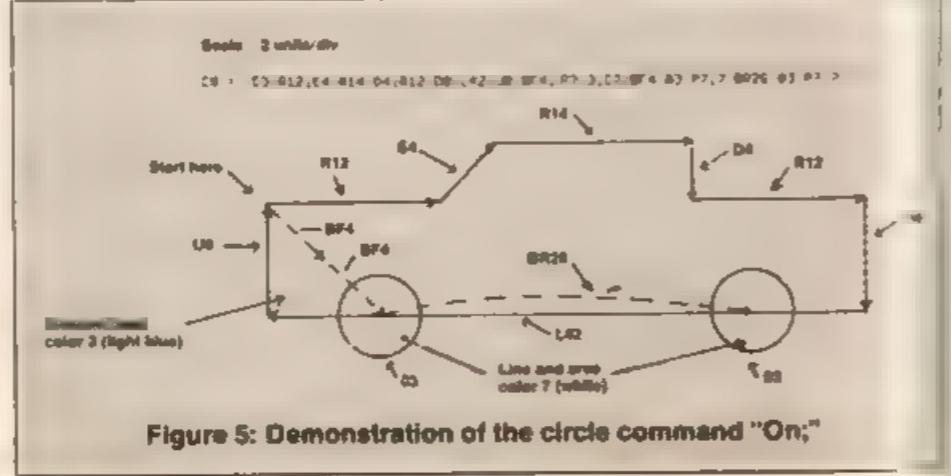


Figure 5: Demonstration of the circle command "On;"

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A-OK DOS versions for MS DOS 1.25 correct flaws in MS-DOS 1.25 without sacrificing its strengths.

- All A-OK DOS 1.25 are much faster and use far less memory than any version of MS-DOS 2.11.

• Runs all software that comes with the Sanyo.

A-OK DOS versions for MS DOS 2.11

- Run all software which runs on the Sanyo under MS-DOS 2.11 and Video Board.
- FILUS special support for Sidekick™ and Flight Simulator™.
- Support installable drivers for hard disks, etc.

Comparing A-OK DOS-3 and DS DOS+ the Sanyo PC Hackers Newsletter states "In a nutshell, you get more for your money in A-OK's package. A-OK has tailored different versions of its DOS for varying disk drive configurations. This makes our ad more complex, but our DOS more efficient and easier for you to use."

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- 200K per single-sided diskette on SSDD and DSDD drives.
- uses ordinary diskettes.
- plays for itself in saved diskettes.

A-OK DOS-2 1.25 or A-OK DOS-2 2.11 and Video Board

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### 800K PER DISK DRIVE

### A-OK DOS-3™

"A-OK DOS for Double and Quad-Density Drive Systems"

- All the features of A-OK DOS-2.
- PLUS up to 4 double-density and quad-density drives.
- in double-density drives
- reads and writes all formats read by 1.25 and 2.11.
- reads, writes and formats 200K SSDD diskettes.
- reads, writes and formats 400K DSDD diskettes.
- on quad-density drives
- reads, writes, and formats 730K and 800K on ordinary diskettes.

A-OK DOS-3 1.25 or A-OK DOS-3 2.11 and Video Board

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### A-OK DOS-4™

### "The Standard Quad-Density DOS"

- All the features of A-OK DOS-2.
- PLUS up to 4 quad drives—3.2 Megabytes of removable medium!
- quad drives read all diskettes written by MS-DOS 1.25 and 2.11.
- quad drives read, write and format 160K, 180K, 320K, 360K, 400K, 730K, 800K formats on ordinary diskettes.
- will not run Prodigy™ disks.

We at A-OK Computers thank you for making A-OK DOS-4™ the standard DOS for quad-density drives on the Sanyo. Thousands of copies of DOS-4™ are now in use in the most demanding applications—yours. Potential bugs have been identified and corrected, making DOS-4 a mature, well-seasoned tool. Your constant feedback has resulted in the successive refinement of our documentation. After thorough testing and comparison to would-be competitors, Scottsdale Systems, America's No. 1 seller of Sanyo's selected DOS-4 as the standard DOS supplied with their Silver Fox™ (HAGEN DOS™ is A-OK DOS-4). And of course, MidWare Micro Peripherals—one of America's largest sellers of computer equipment has selected A-OK DOS-4 for their quad-density Sanyo. Because DOS-4 is now the standard, our 720K and 800K formats are also regarded as the standard. Of the quad-density operating systems, only A-OK DOS-4 supports the very popular PrintScreen550. Soft Sector suits it up well in their September 1984 review entitled "A-OK DOS and PrintScreen550—An Unbearable Combination".

A-OK DOS-4 is the choice of OEMs. Don't trust your work to an experimental DOS, be sure your operating system is A-OK.

Look for these features in a quad-density drive DOS.

- 1 Unique support for Lotus 1-2-3™ and Picasso™ on quad drives.
- 2 Still the only DOS which you can install with quad drives.
- 3 The system automatically recognizes 8/10 sector, 40 and 80 track formats without reconfiguration or using alternate drive symbols (e.g. E, F, etc.)
- 4 Free ramdisk—TurboDrive550.
- 5 Uses low-cost ordinary double-density diskettes.
- 6 FORMATS, READS, WRITES and DISKCOPY'S all MS-DOS standard formats employed by the Sanyo 550 Series.
- 7 Uses the standard DOS-4 730K and 800K formats.
- 8 Built-in text screen to printer dump.
- 9 Supports the only graphics screen dump software built into the DOS-PrintScreen550.

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### PrintScreen550™

Fast, High-Resolution Graphics and Text from Screen to Printer with One Keystroke

- PrintScreen550 now also supports the Video Graphics Board.
- PrintScreen550 is designed for the everyday needs of most users.

• PrintScreen550 capabilities

- Prints a screenshot of graphics to most popular printers.
- Prints everything on the screen whether it's graphics or text.
- Uses the option to rotate the image on the paper. This permits Okidata 92c and other printers with less than 640 horizontal dot positions to print out the full screen.
- Turns your Sanyo into a high-resolution graphics machine.
- Multiscreen facility permits a printed image to be 640 dots by an almost unlimited number of dots in the perpendicular direction.

• PrintScreen550 is flexible and easy to use.

- Interactive mode
- Works like the Print Screen button on the IBM-PC.
- One keystroke does it all. No need to embed commands in BASIC. No extra programs to execute. Same single keystroke works in DOS BASIC and all other software packages that run on the Sanyo.
- Batch mode can be activated in BASIC by a one-line command.

• PrintScreen550 is very fast and a lot of fun!

A-OK's PrintScreen550 software pulls the Print Screen button off the IBM-PC and puts it on your Sanyo MBC-550 Series computer.

PrintScreen550 is an option to any A-OK DOS for a meager

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The listing: DRAW\$, BAS

```
9999 END
19990 REM 'DRAW$' A SUBPROGRAM TO SIMULATE THE IBM PC DRAW COMMAND
19991 REM IN SANYO BASIC
19992 REM BY RAY C. ROBINSON, RTB BOX 725, LAKE CHARLES, LA 70605
19993 REM
19994 REM ***TEST IF FIRST CALL AND SET VARIABLES ACCORDINGLY***
19995 IF BITS(1)="" THEN DIM BITS(199):KS=4:GS=2:ARS=9
19996 KS=1
19997 REM ***PUT MOVE & DRAW COMMANDS INTO BITS() ARRAY***
19998 LS=LEN(DRAW$):LS1=INSTR(DRAW$,";"):BITS(KS)=LEFT$(DRAW$,LS1-1)
19999 IP LS1=LS THEN 19139
19119 DRAW$=RIGHT$(DRAW$,LS-LS1):KS=KS+1:GOTO 19999
19120 REM ***START TRANSLATION OF BITS() INTO MOVE & DRAW COMMANDS***
19139 FOR IS=1 TO KS
19140 LS=LEN(BITS(IS))
19150 AS1$=LEFT$(BITS(IS),1):AS2$=MIDS(BITS(IS),2,1)
19160 REM ***TEST FOR "A" AND IF TRUE GET ROTATION FACTOR***
19170 IF AS1$="A" THEN ARS=VAL(AS2$):GOTO 19550
19180 REM ***TEST FOR "S" AND IF TRUE SET SCALE***
19190 IF AS1$="S" THEN SXS=VAL(RIGHT$(BITS(IS),LS-1)):GOTO 19550
19200 REM ***TEST FOR "C" AND IF TRUE SET LINE COLOR***
19210 IF AS1$="C" THEN CS=VAL(AS2$):GOTO 19550
19214 REM ***TEST FOR "O" AND IF TRUE DRAW CIRCLE***
19215 IF AS1$="O" THEN RS=VAL(AS2$):CIRCLE(XS1,YS1),RS*SXS/4,,,CS:GOTO 19550
19220 REM ***TEST FOR "M" OR "P" AND IF TRUE MOVE OR PAINT ELSE DRAW***
19230 IF AS1$="M" AND AS2$="M" AND AS1$="P" THEN 19340
19240 CCS=INSTR(BITS(IS),",")
19250 IF AS1$="B" THEN XS$=MIDS(BITS(IS),3,CCS-3) ELSE XS$=MIDS(BITS(IS),2,CCS-2)
19260 YSS=RIGHT$(BITS(IS),LS-CCS)
19265 IF AS1$="P" THEN PAINT(XS1,YS1),VAL(XS$),VAL(YSS):GOTO 19550
19270 REM ***TEST FOR RELATIVE MOVE & DO IF TRUE ELSE DO NORMAL MOVE***
```

```
19280 XTSS=LEFT$(XSS,1).IF XTSS<>"+" AND XTSS<>"-". THEN 19330
19290 XS1=X$1+VAL(XSS) YS1=Y$1+VAL(YSS) GOTO 19310
19300 XS1=VAL(XSS):Y$1=VAL(YSS)
19310 IF AS1$<>"B" THEN LINE-(XS1,YS1)
19320 GOTO 19550
19330 REM ***DETERMINE DRAW DIRECTION***
19340 IF AS1$="B" OR AS1$="N" THEN DS$=AS2$:SS=VAL(RIGHT$(BITS(IS),LS-2))*(SXS/4)
19350 GOTO 19360
19350 DS$=AS1$:SS=VAL(RIGHT$(BITS(IS),LS-1))*(SXS/4)
19360 REM ***CONVERT DRAW DIRECTION TO NUMERIC***
19370 IF DS$="U" THEN TS=1 ELSE IF DS$="H" THEN TS=2 ELSE IF DS$="L" THEN TS=3 ELSE
19380 IF DS$="G" THEN TS=4 ELSE IF DS$="D" THEN TS=5 ELSE IF DS$="F" THEN TS=6 ELSE
19390 IF DS$="R" THEN TS=7 ELSE IF DS$="E" THEN TS=8
19380 REM ***CORRECT DRAW DIRECTION WITH ROTATION FACTOR***
19390 IF ARS=9 THEN 19420
19400 TS=TS+ARS:IF TS>8 THEN TS=TS-8
19410 IF ARS MOD 2=0 THEN 19420
19420 IF TS MOD 2=0 THEN SS=.79717*SS ELSE SS=1.41421*SS
19430 REM ***GET DRAW PARAMETERS***
19430 ON TS GOTO 19430,19440,19450,19460,19470,19480,19490,19500
19430 XS2=XS1:YS2=YS1-.46*SS:GOTO 19520
19440 XS2=XS1-SS:YS2=YS1-.46*SS:GOTO 19520
19450 XS2=XS1-SS YS2=YS1:GOTO 19520
19460 XS2=XS1-SS YS2=YS1+.46*SS:GOTO 19520
19470 XS2=XS1 YS2=YS1+.46*SS:GOTO 19520
19480 XS2=XS1+SS YS2=YS1+.46*SS:GOTO 19520
19490 XS2=XS1+SS YS2=YS1:GOTO 19520
19500 XS2=XS1+SS YS2=YS1-.46*SS
19510 REM ***DETERMINE CORRECT DRAW INSTRUCTION AND EXECUTE***
19520 IF AS1$="B" THEN XS1=XS2:YS1=YS2:GOTO 19550
19530 IF AS1$="N" THEN LINE(XS1,YS1)-(XS2,YS2),CS:GOTO 19550
19540 LINE(XS1,YS1)-(XS2,YS2),CS:XS1=XS2:YS1=YS2
19550 NEXT IS
19560 RETURN
```

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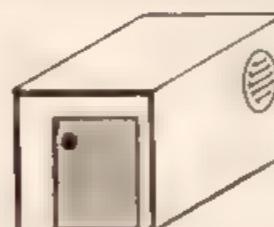
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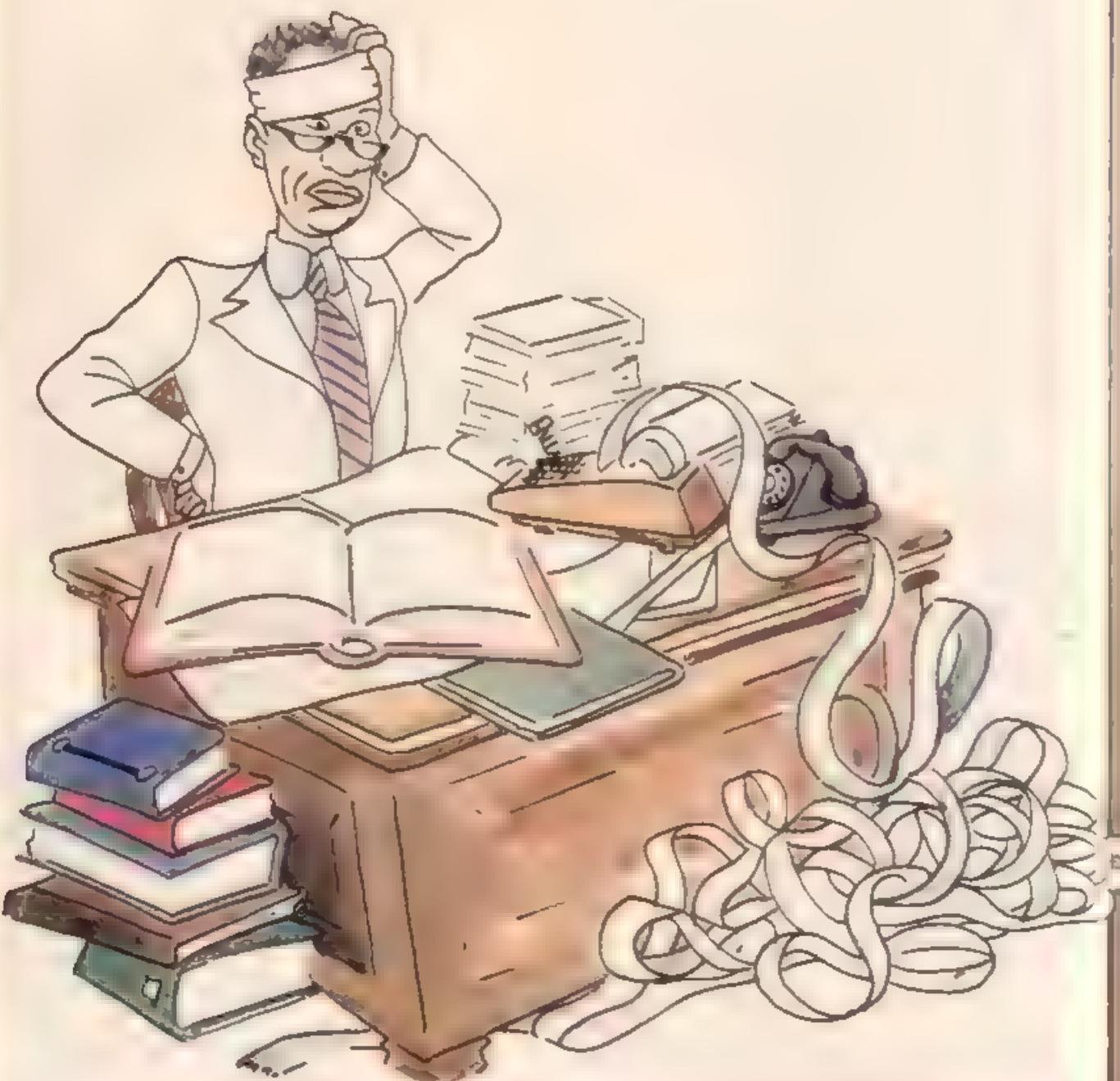


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# Doctor Up Your Medical Records

By Bill Nieberding



This program helps alleviate some of the complicated paper work involved with keeping track of medical records

If you are trying to keep track of the medical records for your family or any group, you know just how duplicated the paper work has gotten in ten years. You have to keep track of hospitals, doctors, prescriptions, tests, for each member. What were the dates of service? When did you send the bills to the insurance company? Did the doctor send the form to the insurance company? Did the insurance company respond to the claim? How much of the deductible has been satisfied? What did you pay out of pocket for tax deduction purposes?

This program, which I have called MED.BAS, allows you to manage all these odds in an orderly fashion, and also print out a summary sheet at any time you want, such as at tax time. The program, as listed, is set up for four people and up to 30 medical events per person, but can be adapted to any number within the limitations of memory. Put in your own limits and names in lines 40 through 80. I did this with no memory problems on a 256K machine and no disk board. The program is menu driven and thus should not need any further explanation. All of the printer dependent code is for an Epson RX-80.

The one problem that I did run into was printing a listing of the program in a

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readable form. It makes liberal use of the GRAPH screen characters which print on the Epson as something else, which is hard to recognize. As a result, I have modified the listing to allow you to know which characters should be typed with the GRAPH key enabled. All characters between "and" should be typed with the GRAPH key enabled. Don't type the "or."

## The Menu

Edit a Person: When you select this option, you are asked for the person. Type in the name of the person. You are then presented with a screen for the next available blank item for that person. This is where you would normally add a new item. Follow the screen prompts to go to the previous or next item for editing previously entered items. Step from entry to entry within an item by pressing ENTER.

Successive carriage returns will keep looping you around on the same screen (item). Type over to change. Backspace to delete the previous character. The cursor positioning keys are not operative. Always terminate each entry within a screen (item) by pressing ENTER. At any position within a screen (after you have hit ENTER) you may step to the next or previous item with the '+' or '-'. When finished editing this person, type a '\'' to return to main menu.

Read Data: This selection reads the file MED.BAS from your disk. This is the file which contains your data. The "85" part is the date for 1985. This automatically changes to MED.B86 when you change the year in Line 20. The program does this read automatically on being run, thus you would normally not have to use this option.

**Write Data:** This option writes the data (including your modifications) back to the MED.DBS data set on disk. Always do this before you quit or your editing will be for nothing.

**Total the Data:** This just does the total calculations necessary for selections 5 and 7. If you are not going to use menu Selection 5 or 7, this one is unnecessary.

**Total to Screen:** This gives you a screen with all the desired totals for all persons. If you have more than four persons, you have to modify this and the corresponding print string lines.

**Screen Person:** This selection asks for the person and then shows a screen with prompts for the chart that has all the dates (D) or the chart that has all the dollars (\$) if there are too many items for one screen, use the (R) to get the rest of them. (By the way, all dates are in the MM-DD-YY format but leading zeros need not be entered. The program takes care of shaping them up to fit the standard format.)

**Printer Output:** This outputs the summary as in Option 5 and the list of all the detailed items by person to the printer. Again, the codes are for the RX-80; you will have to modify these codes for your printer. Note: The only menu selections affected by your number of people (if different from four) will be 5 and 7. You will have to modify to fit your case.

**Editor's Note:** William Nieberding informs us that a change should be made in the program the first time you run it. Simply add an apostrophe at the beginning of Line 420, then run the program and select Option 3 to save a "null" file. After you create the file in this way, you'll be able to run the program as shown.

## The Listing: MED.BAS

```
***** MED *****
1 IFRP$="85" 'CHANGE THIS LINE FOR EACH YEAR
2 !EMS =30:'GUESS AT MAXIMUM NUMBER OF ITEMS OR ENTRIES FOR THE PERSON WITH TH
3 !M=2 FOR THIS YEAR
4 !FILE =4:'NUMBER OF PEOPLE FOR WHOM YOU ARE KEEPING RECORDS
5 !AMS(0)="BILL" 'PUT NAMES OF YOUR PEOPLE IN HERE
6 !AMS(1)="MARY"
7 !AMS(2)="TOM"
8 !AMS(3)="TERRI"
9 !AMS(4)="TOTAL":'FICTIONAL PERSON FOR TOTALS
```

```

199 DIM ITEMS(PEOPLE-1,ITEMS,9),DATNUM(PEOPLE-1,ITEMS),TOT(PEOPLE,8)
200 GOSUB 2199
201 FOR INAM=0 TO PEOPLE-1
202 FOR J=0 TO ITEMS
203 DATNUM(INAM,J)=1E+96:'MAKE DATNUMS LARGE SO THAT UNUSED ONES WILL BUBBLE TO
TOP
204 NEXT J
205 NEXT INAM
206 COLOR 2.0
207 AS=""':CLS
208 PRINT "(K)":STRINGS(78,"(-1)","(X)".
209 PRINT "(B)":TAB(89)"(B)"
210 PRINT "(2)":STRINGS(78,"(-1)","(1)".
211 FOR I=4 TO 22:PRINT "(B)":TAB(89),"(B)",:NEXT I
212 PRINT "(,)":STRINGS(78,"(-1)":"(D)"";
213 LABELS="MENU FOR "+YEARS+" MEDICAL RECORDS":L=LEN(LABELS):LOCATE 2,49-L/2,Y:
PRINT LABELS
214 LABELS(1)="EDIT A PERSON"
215 LABELS(2)="READ DATA"
216 LABELS(3)="WRITE DATA"
217 LABELS(4)="TOTAL THE DATA"
218 LABELS(5)="TOTAL TO SCREEN"
219 LABELS(6)="SCREEN PERSON"
220 LABELS(7)="PRINTER OUTPUT"
221 LOCATE 8,1
222 PRINT TAB(29):"(K)":STRINGS(18,"(-1)","(X)".
223 FOR I=1 TO 7
224 PRINT TAB(29):"(B)":LABELS(I):TAB(45),I;"(B)""
225 NEXT I
226 PRINT TAB(29):"(,)":STRINGS(18,"(-1)","(D)".
227 LOCATE 29,1
228 PRINT TAB(29),"(K)":STRINGS(18,"(-1)","(X)".
229 PRINT TAB(29),"(B)":"SELECT "+",":":"(B)""
230 PRINT TAB(29):"(,)":STRINGS(18,"(-1)":"(D)".
231 IF Q=9 THEN GOSUB 1179:Q=19:GOTO 499
232 AS=INKEYS:IF AS="" GOTO 499
233 LOCATE 21,43:PRINT AS
234 Q=VAL(A$):ON Q GOSUB 499,1179,1349,2329,2539,1649,2829
235 IF Q<1 OR Q>8 GOTO 499
236 IF Q=2 OR Q=3 OR Q=4 OR Q=7 THEN GOTO 499
237 GOTO 189
238 'EDIT AN ENTRY ****
239 LOCATE 21,39
240 INPUT "PERSON ";NAMS
241 GOSUB 2279
242 IF INAM>4 GOTO 599
243 FOR K=0 TO ITEMS
244 IF ITEMS(INAM,K,0)<"" THEN NEXT K
245 FOR J=K TO ITEMS
246 ROW=5
247 CLS
248 COLOR 8.2
249 PRINT NAMS:TAB (18);"ITEM #";J:TAB(39);"CR/ITEM --NEXT ITEM --PREV. ITEM @
-DELETE \-QUIT"
250 COLOR 2.0
251 GOSUB 1919
252 LOCATE ROW,45,1
253 AS=""":BS="""
254 AS=INKEYS:IF AS="" OR AS=CHR$(19) OR AS=CHR$(28) OR AS=CHR$(31) OR AS=CHR$(2
9) OR AS=CHR$(12) OR AS=CHR$(39) GOTO 659
255 IF AS=CHR$(13) AND ROW<22 AND BS="" THEN ROW=ROW+2:AS=""":GOTO 639
256 IF AS=CHR$(13) AND ROW>22 AND BS="" THEN ROW=5:AS=""":GOTO 639
257 IF AS=CHR$(13) AND BS<"" THEN GOTO 779
258 IF AS="@" THEN GOTO 899
259 IF AS="+" THEN GOTO 839
260 IF AS="*" THEN J=J-2:GOTO 839
261 IF AS="\\" THEN GOSUB 1599 GOTO 859
262 IF ASC(A$)=8 AND BS="" GOTO 659
263 IF ASC(A$)=8 THEN BS=LEFTS(B$,LEN(B$)-1):PRINT AS;:PRINT " ";:PRINT AS, AS-
":GOTO 659
264 BS=BS+A$'PRINT AS,:AS=""":GOTO 659
265 GOTO 659
266 ITEMS(INAM,J,(ROW-5)/2)-BS:BS="""
267 IF ROW=5 THEN DDS=ITEMS(INAM,J,0):GOSUB 3539:DATNUM(INAM,J)=DD

```

```

268 GOTO 669
269 FOR K=0 TO 9:ITEMS(INAM,J,K)=""":NEXT K
270 DATNUM(INAM,J)=2E+96
271 GOTO 579
272 IF J<0 THEN J=1
273 NEXT J
274 FOR J=0 TO ITEMS 'FIX DATE STRING LENGTHS
275 FOR K=0 TO 9
276 IF ITEMS(INAM,J,K)="" THEN GOTO 1999
277 IF K>9 AND K<7 GOTO 989
278 IF ITEMS(INAM,J,K)="" THEN 989
279 P1=INSTR(1,ITEMS(INAM,J,K)," ") P2=INSTR(P1+1,ITEMS(INAM,J,K))+" "
280 IF RIGHTS(ITEMS(INAM,J,K),1)="-" THEN DDD$="-" ELSE DDD$=""
281 MONTHS=MIDS(ITEMS(INAM,J,K),1,P1-1)
282 DAYS=MIDS(ITEMS(INAM,J,K),P1+1,P2-P1-1)
283 YEARS=MIDS(ITEMS(INAM,J,K),P2+1,2)
284 IF LEN(DAYS)=1 THEN DAYS=" "+DAYS
285 IF LEN(MONTHS)=1 THEN MONTHS=" "+MONTHS
286 ITEMS(INAM,J,K)=MONTHS+" "+DAYS+" "+YEARS+DDDS
287 NEXT K
288 NEXT J
289 RETURN
290 'WRITE THE INPUT SCREEN ****
291 GOSUB 2279
292 LOCATE 7,1
293 PRINT TAB(76),"(Y)""
294 LOCATE 5,1
295 PRINT TAB(5),"SERVICE DATE (M-D-YY)",STRINGS(44-POS,"-"),":", COLOR 8.2 PRI
296 NT ITEMS(INAM,J,0) COLOR 2.0 PRINT
297 PRINT TAB(5),"SERVICE/RX",STRINGS(44-POS,"-"),":", COLOR 8.2:PRINT ITEMS(IN
AM,J,1) COLOR 2.0 PRINT
298 PRINT TAB(5),"CHARGE",STRINGS(44-POS,"-"),":", COLOR 8.2:PRINT ITEMS(INAM,J
2), COLOR 2.0 PRINT
299 PRINT TAB(5),"WE PAID PROVIDER",STRINGS(44-POS,"-"),":", COLOR 8.2 PRINT IT
300 EMS(INAM,J,3) COLOR 2.0 PRINT
301 PRINT TAB(5),"INSURANCE PAID PROVIDER",STRINGS(44-POS,"-"),":", COLOR 8.2 ?
302 NT ITEMS(INAM,J,4) COLOR 2.0 PRINT
303 PRINT TAB(5),"TO DEDUCTIBLE",STRINGS(44-POS,"-"),":", COLOR 8.2:PRINT ITEMS
304 (INAM,J,6) COLOR 2.0 PRINT
305 PRINT TAB(5),"DATE WE PAID (M-D-YY)",STRINGS(44-POS,"-"),":", COLOR 8.2 PRI
306 NT ITEMS(INAM,J,7) COLOR 2.0 PRINT
307 PRINT TAB(5),"DATE FORM SENT (M-D-YY)",STRINGS(44-POS,"-"),":", COLOR 8.2 ?
308 NT ITEMS(INAM,J,8) COLOR 2.0 PRINT
309 PRINT TAB(5),"DATE FORM RECEIVED (M-D-YY)",STRINGS(44-POS,"-"),":", COLOR 9
310 :PRINT ITEMS(INAM,J,9) COLOR 2.0 PRINT
311 RETURN
312 'READ MED D+YEARS FROM DISK ****
313 DSNAME$="MED D"+YEARS
314 IF Q=0 THEN GOTO 1219
315 LOCATE 21,39 PRINT STRINGS(18," "):LOCATE 21,31 COLOR 6.2 PRINT " SURE (Y/
316 " INPUT Q$ COLOR 2.0 IF Q$<"Y" GOTO 1319
317 LOCATE 21,39 PRINT STRINGS(17," "):LOCATE 21,34 COLOR 6.2 PRINT " READING
COLOR 2.0
318 OPEN "I",1,DSNAME$
319 FOR INAM=0 TO PEOPLE-1
320 FOR J=0 TO ITEMS
321 FOR K=0 TO 9
322 INPUT #1,ITEMS(INAM,J,K)
323 NEXT K
324 INPUT #1,DATNUM(INAM,J)
325 IF ITEMS(INAM,J,0)="" GOTO 1319
326 NEXT J
327 NEXT INAM
328 CLOSE
329 RETURN
330 'WRITE MED D+YEARS TO DISK ****
331 DSNAME$="MED D"+YEARS
332 LOCATE 21,39:PRINT STRINGS(18," "):LOCATE 21,31:COLOR 6.2:PRINT " SURE (Y/
333 " INPUT Q$ COLOR 2.0 IF Q$<"Y" GOTO 1499
334 LOCATE 21,39 PRINT STRINGS(17," "):LOCATE 21,34:COLOR 6.2:PRINT " WRITING
COLOR 2.0
335 OPEN "O",1,DSNAME$
```

```

1399 FOR INAM=9 TO PEOPLE-1
1499 FOR J=9 TO ITEMS
1419 FOR K=9 TO 9
1429 WRITE #1,ITEMS(INAM,J,K)
1439 NEXT K
1449 WRITE #1,DATNUM(INAM,J)
1459 IF ITEMS(INAM,J,9)="" GOTO 1479
1469 NEXT J
1479 NEXT INAM
1489 CLOSE
1499 RETURN
1599 'NOW ORDER THE LIST IN L BY DATNUM(INAM,L)*****
1519 BUBBLE=9
1529 FOR L=9 TO ITEMS-1
1539 IF DATNUM(INAM,L+1)>1E+96 THEN 1559
1549 IF ITEMS(INAM,L+1,9)="" GOTO 1529
1559 IF DATNUM(INAM,L)<-DATNUM(INAM,L+1) GOTO 1619
1569 BUBBLE=1
1579 FOR H=9 TO 9
1589 SWAP ITEMS(INAM,L,H),ITEMS(INAM,L+1,H)
1599 NEXT H
1699 SWAP DATNUM(INAM,L),DATNUM(INAM,L+1)
1619 NEXT L
1629 IF BUBBLE<9 THEN 1519
1639 RETURN
1649 'PRINT TO SCREEN ****
1659 LOCATE 21,39
1669 INPUT;"PERSON      ";NAMS
1679 GOSUB 2279
1689 IF INAM>4 GOTO 1659
1699 CLS
1799 GOSUB 1729
1719 RETURN
1729 'PRINT THE SCREEN ****
1739 CLS
1749 LOCATE 24,1
1759 COLOR 9,3
1769 PRINT NAMS;TAB(25);"\-QUIT $-DOLLAR CHART D-DATE CHART R-REST"
1779 COLOR 2,9
1789 ADD=9
1799 AS=ITEMS. IF AS="" GOTO 1799
1899 IF AS="\\" GOTO 1869
1819 IF AS="$" THEN BS="\":ADD=9 GOSUB 1879 AS=""
1829 IF AS="D" THEN BS="D":ADD=9.GOSUB 2939 AS=""
1839 IF AS="R" AND BS=""\" THEN ADD=29 AS="" BS="" GOSUB 1879
1849 IF AS="R" AND BS="D" THEN ADD=29 AS="" BS="" GOSUB 2939
1859 GOTO 1799
1869 RETURN
1879 'WRITE THE DOLLAR CHART ****
1889 CLS
1899 LOCATE 24,1
1999 COLOR 9,3
1919 PRINT NAMS,TAB(25);"\-QUIT $-DOLLAR CHART D-DATE CHART R-REST"
1929 COLOR 2,9
1939 LOCATE 1,1
1949 COLOR 9,2
1959 PRINT FORM1$;
1969 COLOR 2,9
1979 IF ADD=9 THEN LIMIT=29 ELSE LIMIT=ITEMS
1989 FOR J=ADD TO LIMIT
1999 IF ITEMS(INAM,J,9)="" GOTO 2929
2999 PRINT USING FORM2$;ITEMS(INAM,J,9);ITEMS(INAM,J,1);VAL(ITEMS(INAM,J,2));VAL(ITEMS(INAM,J,3));VAL(ITEMS(INAM,J,4));VAL(ITEMS(INAM,J,5));VAL(ITEMS(INAM,J,6))
2919 NEXT J
2929 RETURN
2939 'WRITE THE DATE CHART ****
2949 CLS
2959 LOCATE 24,1
2969 COLOR 9,3
2979 PRINT NAMS;TAB(25);"\-QUIT $-DOLLAR CHART D-DATE CHART R-REST"
2989 COLOR 2,9
2999 LOCATE 1,1
2199 COLOR 9,2
2119 PRINT FORM3$
```

```

10 COLOR 2 9
11 IF ADD=9 THEN LIMIT=29 ELSE LIMIT=ITEMS
12 FOR J=ADD TO LIMIT
13 IF ITEMS(INAM,J,9)="" GOTO 2189
14 PRINT USING FORM4$;ITEMS(INAM,J,8),ITEMS(INAM,J,1);VAL(ITEMS(INAM,J,2));ITE
15 ;INAM,J,7),ITEMS(INAM,J,8),ITEMS(INAM,J,9)
16 NEXT J
17 RETURN
18 *DEFINE FORMATS *****
19 FORM1$="SRVC DATE (Y)SERVICE          (Y) CHARGE   (Y)WE PAID   (Y)INS PD TR
Y INS PD DS(T)DEDUCTIBLE"
20 FORM2$="S      6(Y)6           6(Y)$xxxx, .xx  6(Y)$xxxx, .xx
21 FORM3$="SRV DATE(Y)SERVICE          (Y) CHARGE   (Y)DT WE PD(Y
Y FM SNT(Y)DT FM RD"
22 FORM4$="S      6(Y)6           6(Y)$xxxx, .xx  6(Y)6           6(Y)
23     6(Y)6           6"
24 FORM5$="" 6(Y)6           6(Y)6           6(Y)6           6(Y)
25     6(Y)6           6"
26 FORM6$="S 6           6(Y) 6(Y)$xxxx, .xx  6(Y)$xxxx, .xx  6(Y)
27 6666, .xx(Y)5666, .xx"
28 RETURN
29 *SET NAME INDEX *****
30 FOR INAM=0 TO PEOPLE-1
31 IF NAMS=NAMS(INAM) GOTO 2319
32 NEXT INAM
33 RETURN
34 *TOTAL ALL *****
35 LOCATE 21,39 PRINT STRINGS(17," "). LOCATE 21,33 COLOR 6,2 PRINT " TOTALING "
36 COLOR 2,9
37 FOR I=1 TO PEOPLE
38 FOR T=1 TO 6
39 TOT(I,T)=9
40 NEXT T NEXT I
41 FOR INAM=0 TO PEOPLE-1
42 FOR J=0 TO ITEMS

```

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```

1010 LPRINT ESCS,"N",CHR$(6), 'FORM FEED SKIP 6 LINES
1010 LPRINT ESCS"m"CHR$(4) 'GRAPHICS CHARACTERS ON
1050 LPRINT ESCS"e"ESCS"-1".
1060 LPRINT"UPDATED ON "DATES
1070 LPRINT ESCS"A"CHR$(6)::'LINE FEED TO 1/12 INCH
1080 LPRINT USING FORMPS$.NAMS(9).NAMS(1).NAMS(2).NAMS(3).NAMS(4)
1090 LPRINT ESCS"ft",
1100 LPRINT ESCS"-#";FORMPS$;ESCS"-1"
1110 FOR I=1 TO 8
1120 LPRINT USING FORMP4$;I;LS(I);TOT(9,I);TOT(1,I);TOT(2,I);TOT(3,I);TOT(4,I)
1130 IF I=8 GOTO 3169
1140 LPRINT ESCS"-#";FORMPS$;ESCS"-1"
1150 NEXT I
1160 LPRINT ESCS"-#"
1170 'PRINT DETAILED RECORDS *****
1180 LPRINT ESCS"E"ESCS"-1" 'EMPHASIZED AND UNDERLINED
1190 LPRINT LPRINT
1200 LPRINT "DETAILED RECORDS"
1210 FOR INAM=9 TO PEOPLE-1
1220 WIDTH 89
1230 LPRINT CHR$(18) 'COMPRESSED OFF
1240 LPRINT ESCS"E"ESCS"-1" 'EMPHASIZED AND UNDERLINED
1250 LPRINT NAMS(INAM)
1260 LPRINT
1270 WIDTH 159
1280 LPRINT CHR$(15), 'COMPRESSED ON
1290 LPRINT ESCS"F" 'EMPHASIZED OFF
1300 LPRINT FORMP1$
1310 LPRINT ESCS"-#";FORMP6$,ESCS"-1"
1320 FOR J=9 TO ITEMS
1330 IF ITEMS$(INAM,J,9)="" GOTO 3370
1340 LPRINT USING FORMP2$;ITEM$(INAM,J,9);ITEM$(INAM,J,1);VAL(ITEM$(INAM,J,2));VAL(ITEM$(INAM,J,3));VAL(ITEM$(INAM,J,4));VAL(ITEM$(INAM,J,5));VAL(ITEM$(INAM,J,6));ITEM$(INAM,J,7);ITEM$(INAM,J,8);ITEM$(INAM,J,9)
1350 LPRINT ESCS"-#";FORMP6$,ESCS"-1"
1360 NEXT J
1370 LPRINT LPRINT STRINGS(139,"")
1380 LPRINT
1390 NEXT INAM
1400 LPRINT CHR$(12),ESCS"@";
1410 RETURN
1420 'FIX THE DATE STRING LENGTHS *****
1430 FOR INAM=9 TO PEOPLE-1
1440 FOR J=9 TO ITEMS
1450 FOR K=9 TO 9
1460 IF ITEMS$(INAM,J,K)="" GOTO 3510
1470 IF K>9 AND K<7 GOTO 3490
1480 IF RIGHTS(ITEM$(INAM,J,K),1)="?" THEN ITEMS$(INAM,J,K)=" "+ITEM$(INAM,J,K)
1490 NEXT K
1500 NEXT J
1510 NEXT INAM
1520 RETURN
1530 'S/R TO CALCULATE DD - NO. OF DAYS SINCE 1-1-84
1540 'ENTER WITH DDS (M-D-YY). LEAVE WITH DD.
1550 'COMPUTE THE DAY OF THIS YEAR
1560 P1=INSTR(1,DDS," ") P2=INSTR(P1+1,DDS,"-")
1570 MONTH=VAL(MIDS(DDS,1,P1-1))
1580 DAY=VAL(MIDS(DDS,P1+1,P2-P1-1))
1590 YEAR=VAL(MIDS(DDS,P2+1,2))
1600 JJ=YEAR
1610 GOSUB 3680
1620 DD=INT(273*MONTH/9)-LY*INT((MONTH+9)/12)+DAY-39: 'GOT THIS EXPRESSION FROM A
1630 ASTRONOMER. IT GIVES THE DAY NUMBER OF ANY DAY IN THE YEAR. LY=1 FOR LEAP YEAR
1640 IY=2 FOR NON LEAP YEAR
1650 FOR JJ=84 TO YEAR-1
1660 DD=165+DD
1670 GOSUB 3680:IF LY=1 THEN DD=DD+1
1680 NEXT JJ
1690 RETURN
1700 'S/R TO ACCOUNT FOR LEAP YEAR. LY=1 IS LEAP YEAR. LY=2 IS NOT.
1710 IF JJ MOD 4=0 THEN LY=1 ELSE LY=2
1720 IF JJ MOD 100=0 THEN LY=2
1730 IF JJ MOD 400=0 THEN LY=1
1740 RETURN

```

# Galactic Empire

By Jon McGuire



I first wrote *Galactic Empire* for my TRS-80 Color Computer, based on a similar game I had for the TRS-80 Model III. Although I was satisfied with the Color Computer version's ability to mimic the original, memory limitations kept me from making desired improvements. Luckily, I found this was not the case with the Sanyo MBC-550. Here you have the finished, highly modified Sanyo version.

I suggest you read the article, then type in the listing and save it. With the program loaded and running, go over the article once more. It is easier to understand something if you can see it work or "play with it" and get the hang of using it.

The opening screen does a nice job of demonstrating the Sanyo's excellent graphics capabilities. It even looks very nice on my amber monitor. Press any key to start the game.

When asked if you would like background information, press 'Y' or 'N'. If you choose 'Y', it will display a screen of text explaining why you are fighting and what you are fighting for. Basically, you are in charge of a huge armada. With this you must take control of the 19 other planets in the galaxy. After you are finished reading the text screen, press any key.

If you chose not to read the text or just skip the text screen, there is a brief pause while the program sets up variables, etc., then the game screen forms.

This screen will be the one you see through the whole game (with one difference explained later). With the exception of the small box which contains the "Galactic Empire" logo, the screen is divided into three boxes. I will refer to these as the top, middle and bottom screens. You will understand this the first time you run the program.

The upper part of the top screen reads "Command." This line will always display the current mode (Command, Computer, Orders, Embark, Attack, etc.). Inside the box is a listing of all of your resources. These will always initialize as you see them displayed, but will change during the game. Money used in this game is Galactic Credits (Cr).

On the middle screen you see the command menu. When you enter another mode this menu will disappear and the new menu will appear on the bottom screen. As you can see, your choices are 'C' for orders, 'C' for computer, 'A' to attack, 'E' to embark, 'S' to save and 'L' to load a game. This screen also displays some craft information.

\* McGuire is a junior at Orange Park High School. He has been writing computer programs for a wide range of computers since 1978, when his father first bought a TRS-80 Model I. He may be reached at 2234 George Wythe Rd., Orange Park, FL 32073, (904) 272-5596.

and 'S' (Cryonics, Navigation, Taxation, Recruiting and Ships).

Cryonics comes from "cryogenics" which has to do with placing living material in extreme cold and having it emerge later in perfect shape with very little aging. With this, you can select the number of years you wish to spend in suspended animation. With each year that passes, the year counter on the top screen advances and the large "Galactic Empire" changes color. This is how you'll wait for the return of your scout ships.

To use the embark command, you must first use navigation to give the armada navigators their orders. You will be shown the current destination and be asked for a new one. You may either press the corresponding key for the planet's name, or 'X' to use the current destination and return to the orders menu.

When you press 'T' from the orders menu, a secondary menu appears. This menu allows you to tax the planet or recruit men from the surface. You can only recruit and tax once per visit or after you see a "Happy New Year!!!" display. After that one time, you must leave and return later, or wait for another year to pass. Passing time with cryonics will not allow you to use this function again. The time must have passed as a result of the routine that produces the "Happy New Year!!!" display.

If you choose to tax the people, you will see how many credits were collected and the numbers on the top screen will increase accordingly. You will then be returned to the tax/recruit menu.

If you should wish to recruit men (to fill empty transports), press 'R' from the tax/recruit menu. You will be asked to type in how many transports to fill. Of the six possible population sizes, each can fill only a certain number of transports. If you go over this, you will be notified and asked to reenter the number. I will give you this hint: The maximum number of transports Galactica-sized populations can fill is 79.

The next orders menu selection is 'S' for ships. This will take you to a sub-menu where you can either press 'B' to build ships, or 'S' to send scout ships.

When you choose to build ships, the bottom screen will clear. It will then display the cost of the various types of ships (transports, fighters and scouts). You may build a certain number of ships per year (see tax/recruit menu for details on what "per year" means). This number is dependent on planet population and technological level. You will be prompted for each type of ship. If you try to build more ships than the planet can handle, the computer will not accept the number. Note: If you have an upper limit of, for example, 11, and you only build nine ships, you can go back later in the same year and build the other two.

If you wish to find information on any of the other planets in the galaxy, use the



send scout option. With this, you will be asked for the name of the destination planet and which planet you want it to return to with the data. After selecting these, it will ask if the information is correct. If you answer no, you may reenter it. If you answer yes, you will be shown the year in which the scout will return. In order to receive the information, you must either be on the correct planet when the scout returns, or go to the correct planet after it returns.

The next menu is the computer menu. From here you can select 'M', 'P', 'D' or 'S' (Map, Planetary data, Distance calculator and Status report).

The map function is the only one that does not use any of the three screens. Instead, the entire screen will clear and 20 letters will appear; black letters with green backgrounds for independent planets, and green on black for members of the empire. Initially, only Galactica will be an empire world. You can press any key from A to T to see the planet position.

Pressing the space bar while a planet is blinking will stop the blinking. Pressing the space bar while no planets are blinking causes the computer to list each planet name and flash its position. Pressing the space bar will stop the listing. You can press 'X' to return to the computer menu.

The next function, 'P', displays all known data on each planet. You will be asked for the planet name. If you have traveled to the planet before, or sent and received a scout from there, it will list the planet name, population, technological level and empire status (Empire or Independent). Initially, you only have data on Galactica.

With 'D'(Distance) you can tell how far

it is between two planets. The computer will ask for each planet name. It will then display names, X,Y positions, and how many units there are between them. This is useful for planning scout missions.

Finally, you can choose to view the status report. This will list the scout number, scout destination, which planet it will return to, what year it will return in and how many years left before it returns. If the number of years left is zero or negative, then you must travel to the designated planet to retrieve the data.

From the command menu, the next choice is 'E', for embark. When you select this command, the middle screen will clear and the bottom screen will fill with data.

This data displays the destination, what year you will arrive in and how far you have to go. As the distance decreases, the year counter on the top screen increases.

When distance reaches zero, there will be a slight pause as the computer checks to see if any scouts have returned during your travel. It also must modify some working variables.

Remember, if you have given the navigators no orders, you cannot embark. Also, watch the distances you travel. With each unit taking one year for travel, you can use your time up quickly. That is why the number of years allotted (350) is so high.

With the attack command you can lay siege upon a planet. When you choose this, the screen will clear and come back in red. Then the computer will check to make sure you have fighter ships, troops, and will check the planet conditions. If you have no fighters or troops, or attempt to assault an empire, the attack will automatically be called off.

Assuming you had no problems with the preliminaries, the lower screen will give you data on the battle. On the left half of the bottom screen the land battle shown. On the right, the air battle. For each, the chance (percentage) of the Empire winning is displayed, as well as the enemy's chance. Note that you can win one of the two battles and still lose from the loss of the other battle. Also, note that some planets do not have the technology to carry on an aerial battle.

If, at any time, you do not like the way the fight is going, press 'X'. This will result in a manual abort (retreat). Make sure you do not follow only the percentage. The number of fighters and transports remaining changes during a battle sometimes drastically — depending upon who you are fighting.

The save game feature will allow you to place your resources, the galaxy, and everything else necessary for game play in a disk file for retrieval. A standard eight character filename is used, with the extension of .EMP in Drive A.

With the load game feature you can get a previously saved game back up and running. You must start all loaded games from the command menu.

That, very basically, is *Galactic Empire*.

You may notice that the hints and information in this article are not highly detailed. Part of the fun of this game is trying to figure out the best order in which to do things and in finding the little eccentricities of the game. It is not hard to play, but it will take a lot of practice to reach the point where you will win many campaigns as you lose. After several weeks of trying, I finally won a game and I wrote it!

#### The listing: EMPIRE.BAS

```

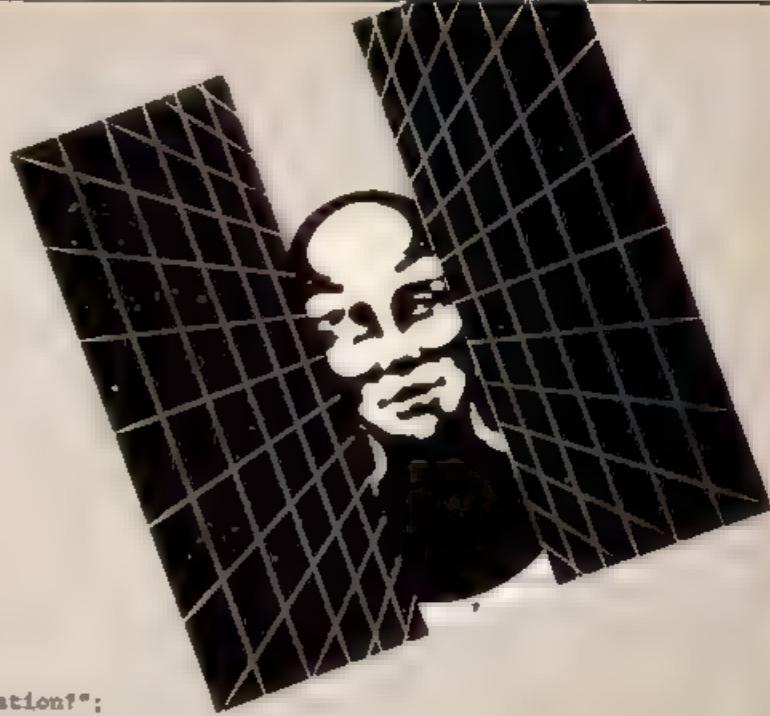
19 ****
20 ***** Galactic Empire 5.8 ****
30 ***** By Jon McGuire ****
40 ***** Copyright 1985 ****
50 ****
60 '
70 '
80 FOR T=1 TO VAL(RIGHT$(TIME$,2)):Z2=RND:NEXT T
90 COLOR 4,9:CLS:LOCATE 1,39,9:PRINT "By Jon McGuire":WINDOW (9,9)-(639,199)
100 SYMBOL (29,39),"Galactic Empire",5,1,4
110 FOR T=1 TO 25:X=INT(RND*629)+19:Y=INT(RND*129)+69:CIRCLE(X,Y),INT(RND*2)+1,,
1,6:PAINT (X,Y),7,6:NEXT T:X=INT(RND*259)+1:Y=INT(RND*25)+1
120 X=175-X:CLR1=7:CLR2=1:Y=Y-29
130 CIRCLE (259+X,169+Y),39,..,2:PAINT (259+X,169+Y),1,2
140 CIRCLE(259+X,169+Y),19,..,5,..75,,2
150 CIRCLE(259+X,169+Y),29,..,25,..5,..5,..2
160 LINE (249+X,169+Y)-(239+X,169+Y),2
170 CIRCLE(269+X,179+Y),15,..,25,..5,..5,..2
180 CIRCLE (279+X,179+Y),35,..,85,..85,..2
190 CIRCLE (259+X,155+Y),5,..5,..75,,2
200 LINE (247+X,155+Y)-(249+X,151+Y),2
210 CIRCLE (309+X,169+Y),9,..,25,..75,,2
220 CIRCLE (279+X,164+Y),5,..8,..6,..6,..2
230 CIRCLE (268+X,169+Y),6,..35,..1,..3,..2

```

```

240 PAINT (259+X,169+Y),2,2
250 CIRCLE (259+X,136+Y),16,..,5,..25,..2
260 PAINT (259+X,136+Y),7,2
270 CIRCLE (259+X,136+Y),16,..,5,..25,..3
280 CIRCLE (249+X,189+Y),3,..,4,..2
290 PAINT (249+X,189+Y),2,2
300 CIRCLE (239+X,175+Y),2,..,1,..2,..2
310 PAINT (239+X,175+Y),2,2
320 CIRCLE (219+X,159+Y),19,..,8,..1,..1,..3,..2
330 CIRCLE (239+X,143+Y),3,..,3,..2
340 PAINT (239+X,143+Y),2,2
350 CIRCLE (233+X,145+Y),3,..,1,..8,..2
360 PAINT (234+X,145+Y),2,2
370 CIRCLE (219+X,159+Y),15,..,25,..1,..7,..2
380 CIRCLE (219+X,145+Y),29,..,25,..3,..1,..3,..2
390 PAINT (219+X,159+Y),2,2
400 CIRCLE (299+X,149+Y),29,..,37,..32,..2
410 PAINT (299+X,149+Y),5,2
420 CIRCLE (259+X,169+Y),59,..,9
430 CIRCLE (299+X,136+Y),2,..15,..77,..7
440 CIRCLE (298+X,164+Y),2,..15,..77,..7
450 CIRCLE (302+X,139+Y),2,..15,..77,..7
460 IF INKEY$="" THEN 469 ELSE COLOR 2,9
470 CLS
480 LOCATE 19,15
490 PRINT "Would you like background information?";
500 IS=INKEY$:IF IS="" THEN 599
510 IF IS="Y" OR IS="y" THEN GOSUB 3999 GOTO 3769 ELSE 3769
520 COLOR 2,9:CLS:LOCATE 1,1,9:FOR T=1 TO 24:LOCATE T,1:PRINT CHR$(179)::LOCATE
T,89:PRINT CHR$(179)::NEXT T:CLR1=7:CLR2=1
530 LOCATE 1,2:PRINT STRINGS(78,196)::LOCATE 7,2:PRINT STRINGS(78,196)::LOCATE 2
+ 2 PRINT STRINGS(78,196)::LOCATE 12,2:PRINT STRINGS(78,196)::LOCATE 14,2:PRINT
STRINGS(78,196),
540 IS=CHR$(195) LOCATE 7,1:PRINT IS::LOCATE 12,1:PRINT IS::LOCATE 14,1:PRINT IS
550 IS=CHR$(189):LOCATE 7,89:PRINT IS::LOCATE 12,89:PRINT IS::LOCATE 14,89:PRINT
IS,
560 LOCATE 1,1:PRINT CHR$(218), LOCATE 1,89:PRINT CHR$(191);
570 LOCATE 24,1:PRINT CHR$(192), LOCATE 24,89:PRINT CHR$(217),
580 LOCATE 2,3 PRINT "Year.",YR, LOCATE 2,39 PRINT "Credits",CR, LOCATE 4,3:PRI
NT "Scouts",SSH,
590 LOCATE 4,54:PRINT "Fighters:",FTR::LOCATE 2,54:PRINT NAMS(CP)::GOSUB 3970
600 LOCATE 6,11:PRINT "Loaded Transports:",LTR::LOCATE 6,42:PRINT "Empty Transpo
rt",ETR,
610 SYMBOL (79,95),"G A L A C T I C E M P I R E",2,1,CLR1
620 SYMBOL (71,96),"G A L A C T I C E M P I R E",2,1,CLR1
630 SYMBOL (72,97),"G A L A C T I C E M P I R E",2,1,CLR1
640 SYMBOL (73,98),"G A L A C T I C E M P I R E",2,1,CLR1
650 SYMBOL (74,99),"G A L A C T I C E M P I R E",2,1,CLR2
660 RETURN
670 GOSUB 520
680 GOSUB 3739 GOSUB 3759
690 LOCATE 1,39:PRINT "COMMAND";
700 LOCATE 9,5:PRINT ">O< Orders";TAB(59);">E< Embark";
710 LOCATE 19,5:PRINT ">C< Computer";TAB(59);">A< Attack";
720 LOCATE 11,5:PRINT ">S< Save";TAB(59);">L< Load";
730 LOCATE 8,39,9:PRINT "Command? ";
740 IS=INKEY$:GOSUB 3599:LOCATE 8,39:IF IS="" THEN 749 ELSE IS=CHR$(ASC(IS))AND 9
750 IF IS="O" OR IS="C" OR IS="A" OR IS="S" OR IS="L" OR IS="E" THEN GOSUB 3749
760 IF IS="O" THEN 769 ELSE IF IS="C" THEN 1559 ELSE IF IS="E" THEN 2199 ELSE IF
IS="A" THEN 2369 ELSE IF IS="S" THEN 3299 ELSE IF IS="L" THEN 3359 ELSE 749
770 LOCATE 1,2:PRINT STRINGS(78,196)::LOCATE 1,39:PRINT "ORDERS";
780 GOSUB 3739
790 LOCATE 16,19:PRINT ">C< Cryonics";TAB(69);">N< Navigator"; LOCATE 18,19 PRIN
790 ">T< Tax/Recruit";TAB(69);">S< Ships";
800 LOCATE 21,39,9:PRINT "Command? ";
810 IS=INKEY$:GOSUB 3599:LOCATE 21,39:IF IS="" THEN 899 ELSE IS=CHR$(ASC(IS)) AND
820 IF IS="X" THEN 689
830 IF IS="C" THEN 829 ELSE IF IS="N" THEN 939 ELSE IF IS="T" THEN 1929 ELSE IF
840 "S" THEN 1299 ELSE 899

```



```

829 GOSUB 3739
839 LOCATE 16,29:PRINT "Cryonics";:2-9,22-9
849 LOCATE 19,15,1:PRINT "How many years (RETURN to abort)":;INPUT (3);";:Z
859 LOCATE 19,89:PRINT CHR$(179),:GOSUB 3979
869 IF Z-9 THEN 779
879 C-2
889 C-C+1-ZZ-ZZ+1:IF C=8 THEN C-1
899 SYMBOL (74,99),"G A L A C T I C E M P I R E",2,1,C
909 YR-YR+1:LOCATE 2,8:PRINT YR,
919 FOR T-1 TO 199:NEXT T:GOSUB 3699
929 IF ZZ<2 THEN 889
939 SYMBOL (74,99),"G A L A C T I C E M P I R E",2,1,CLR2
949 GOSUB 3699:GOTO 779
959 GOSUB 3739:LOCATE 16,29:PRINT "Navigation";
969 LOCATE 18,3:PRINT "Current destination : ";NAMS(NAV),
979 LOCATE 20,3:PRINT "Enter new destination : ";
989 GOSUB 3599:LOCATE 29,27:I$-INKEYS IF I$="" THEN 989 ELSE V-(ASC(I$) AND 95)-64
999 IF I$="X" THEN 779
1009 IF V<1 OR V>29 THEN 989
1019 PRINT NAMS(V);:NAV=V:GOTO 779
1029 GOSUB 3739
1039 LOCATE 16,5:PRINT "-T- Taxation";TAB(69);"-R- Recruit";
1049 LOCATE 19,39,9 PRINT "Command? ";
1059 GOSUB 3599:LOCATE 19,38:I$-INKEYS:IF I$="" THEN 1059 ELSE I$-CHR$(ASC(I$) AND 95):IF I$="X" THEN 779 ELSE IF I$="T" OR I$="R" THEN 1069 ELSE 1059
1069 IF I$="T" THEN 1199
1079 IF RECR=1 THEN 1059
1089 GOSUB 3739
1099 LOCATE 16,29:PRINT "Recruit Troops";:N=9
1109 IF EI(CP)=1 THEN 1129
1119 LOCATE 18,15:PRINT "You cannot recruit from Independent planets, sir ". FOR T-1 TO 199:NEXT T:GOTO 1029

```

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1129 LOCATE 18,29 PRINT "Population: ";POP1TNS(CP);
1139 LOCATE 29,15:INPUT (3);"Fill how many transports";:Z
1149 LOCATE 29,89:PRINT CHR$(179),:GOSUB 3979
1159 IF ZZ>ETR THEN LOCATE 23,2:PRINT "We don't have that many transports that are empty, sir!"::FOR T-1 TO 199:NEXT T GOTO 1029
1169 IF ZZ=0 THEN 1029
1179 IF INT(ZZ/16)>POP(CP) THEN LOCATE 29,15 PRINT "They'd never recover from the loss of men, sir!"::FOR T-1 TO 199:NEXT T GOTO 1029
1189 LTR=LTR+ZZ ETR=ETR-ZZ:LOCATE 6,29 PRINT LTR, LOCATE 6,59 PRINT ETR," ",RECB-1:GOTO 1029
1199 IF TAXED=1 THEN 1059
1209 GOSUB 3739
1219 LOCATE 16,29:PRINT "Tax Population";:AMT=0
1229 IF EI(CP)=1 THEN 1249
1239 LOCATE 18,19:PRINT "You cannot tax Independent worlds, sir!"::FOR T-1 TO 199:NEXT T:GOTO 1029
1249 AMT=INT((POP(CP)*(100+TLVL(CP)))/3)
1259 N=INT(RND*99)+1 IF N<39 THEN AMT=AMT-(RND*29) ELSE IF N>79 THEN AMT=AMT+(RN*79)
1269 AMT=INT(AMT) CR=CR+AMT LOCATE 2,39,9 PRINT "Credits ",CR,
1279 LOCATE 18,25 PRINT AMT." Cr collected, sir ".
1289 FOR T-1 TO 199:NEXT T:TAXED=1:GOTO 1029
1299 GOSUB 3739
1309 LOCATE 16,5 PRINT "-B- Build Ships",TAB(69),"-S- Send Scouts". LOCATE 18,39,9 PRINT "Command? "
1319 GOSUB 3599:LOCATE 18,38:I$-INKEYS:IF I$="" THEN 1319 ELSE I$-CHR$(ASC(I$) AND 95)
1329 IF I$="X" THEN 779 ELSE IF I$="B" THEN 2859 ELSE IF I$="S" THEN 1339 ELSE 1119
1339 GOSUB 3739:LOCATE 16,29 PRINT "Send Scouts";
1349 FOR T-1 TO SSH
1359 IF SENT(T)=1 THEN 1329
1369 LOCATE 18,29,9 PRINT "Scout number: ";T;

```

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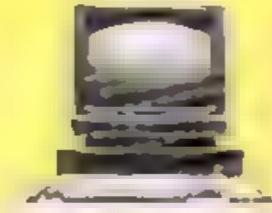
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1379 LOCATE 19,29:PRINT "Send to: ";
1389 GOSUB 3599:LOCATE 19,29:IS=INKEY$:IF IS="" THEN 1389 ELSE IS=CHR$(ASC(IS) AND 95):IF IS="X" THEN 1299
1399 V=ASC(IS)-64:IF V<1 OR V>29 THEN 1389
1409 PRINT NAMS(V);:DEST(T)=V
1419 LOCATE 29,29:PRINT "Return to: ";
1429 GOSUB 3599:LOCATE 29,31:IS=INKEY$:IF IS="" THEN 1429 ELSE IS=CHR$(ASC(IS) AND 95):IF IS="X" THEN 1299
1439 V=ASC(IS)-64:IF V<1 OR V>29 THEN 1429
1449 PRINT NAMS(V);:RTRN(T)=V
1459 LOCATE 22,29:PRINT "Correct (Y/N/X)? ";
1469 GOSUB 3599:LOCATE 22,37:IS=INKEY$:IF IS="" THEN 1469 ELSE IF IS="X" THEN 1299
1479 IF IS="N" OR IS="n" THEN 1339
1489 PRINT "Yes";:SENT(T)=1
1499 RTYR(T)=ABS(PX(CP)-PX(DEST(T)))+ABS(PY(CP)-PY(DEST(T)))+YR
1509 LOCATE 21,29,9:PRINT "Return year: ";RTYR(T)
1519 FOR T=1 TO 1999 NEXT T:GOSUB 3599:GOSUB 3979:GOTO 1299
1529 NEXT T LOCATE 19,29
1539 PRINT "We have no scouts available, sir.";
1549 FOR T=1 TO 1999 NEXT T:GOSUB 3739:GOTO 1399
1559 LOCATE 1,2:PRINT STRING$(78,196);:LOCATE 1,39,9:PRINT "COMPUTER";
1569 GOSUB 3739
1579 LOCATE 16,19:PRINT "-M- Map";TAB(45);"-S- Status Report";:LOCATE 18,19:PRINT "-D- Distance Calculator";TAB(45);"-P- Planetary Data";
1589 LOCATE 21,39,9 PRINT "Command? ";
1599 IS=INKEY$:GOSUB 3599:LOCATE 21,38:IF IS="" THEN 1599 ELSE IS=CHR$(ASC(IS) AND 95):IF IS="X" THEN 689
1609 IF IS="M" THEN 1619 ELSE IF IS="S" THEN 1709 ELSE IF IS="D" THEN 1999 ELSE IF IS="P" THEN 2969 ELSE 1599
1619 COLOR 2,9 CLS FOR T=1 TO 29
1629 IF EI(T)=1 THEN 1649
1639 LOCATE PY(T),PX(T),9:COLOR 9,2:PRINT MIDS(NAMS(T),1,1);:GOTO 1659
1649 LOCATE PY(T),PX(T),9:COLOR 2,9 PRINT MIDS(NAMS(T),1,1);
1659 NEXT T:COLOR 2,9
1669 GOSUB 3599:LOCATE 1,1,9:IS=INKEY$:IF IS="" THEN 1669 ELSE IS=CHR$(ASC(IS) AND 95)
1679 IF IS="X" THEN GOSUB 529:GOTO 1569
1689 IF IS=" " THEN 1779 ELSE GOSUB 1699:GOTO 1619
1699 V=ASC(IS)-64:IF V<1 OR V>29 THEN RETURN
1709 LOCATE 1,1,9:PRINT NAMS(V);TAB(69);":(";
1719 IF EI(V)=1 THEN PRINT "Empire"; ELSE PRINT "Independent";
1729 PRINT ")";:FOR T=1 TO 199
1739 IF INKEY$=" " THEN RETURN 1619
1749 IF EI(V)=1 THEN C2=9:C1=INT(RND*6)+1 ELSE C1=2:C2=INT(RND*6)+1
1759 COLOR C1,C2:LOCATE PY(V),PX(V),9 PRINT MIDS(NAMS(V),1,1);:NEXT T
1769 RETURN
1779 FOR T=1 TO 29 V=T:GOSUB 1789 NEXT T GOTO 1669
1789 GOSUB 3739
1799 LOCATE 16,29:PRINT "Scout Status Report";
1809 LOCATE 18,2:PRINT "*";TAB(5);:Destination";TAB(25);:"Returns at";TAB(45).:"Re
turn year";TAB(65);:"Years to go";
1819 LOCATE 19,2:PRINT STRING$(74,196);
1829 FOR T=1 TO 9
1839 IF SENT(T)=1 THEN GOSUB 1859
1849 NEXT T:GOTO 1569
1859 LOCATE 29,2,9:PRINT MIDS(STRS(T),2,1);TAB(5);NAMS(DEST(T));TAB(25);NAMS(RTR
N(T));TAB(47);RTYR(T);TAB(67);RTYR(T)-YR
1869 LOCATE 23,29:PRINT "Press any key to continue.";
1879 GOSUB 3599:LOCATE 1,1,9:IF INKEY$="" THEN 1879 ELSE LOCATE 23,29
1889 PRINT SPACES(39);:LOCATE 29,2:PRINT SPACES(78);
1899 RETURN
1909 GOSUB 3739
1919 LOCATE 16,29 PRINT "Distance Calculator";
1929 LOCATE 18,15:PRINT "Planet";TAB(49);:"X";TAB(59);:"Y";
1939 LOCATE 19,2:PRINT ">>>";
1949 GOSUB 3599:LOCATE 19,5:IS=INKEY$:IF IS="" THEN 1949 ELSE IS=CHR$(ASC(IS) AND 95):IF IS="X" THEN 1569
1959 V=ASC(IS)-64:IF V<1 OR V>29 THEN 1999
1969 NI-V:LOCATE 19,2

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1979 PRINT "*1";TAB(15);NAMS(V);TAB(39);PX(V);TAB(49);PY(V);
1989 LOCATE 29,2 PRINT ">>>";
1999 GOSUB 3599:LOCATE 29,5:IS=INKEY$:IF IS="" THEN 1999 ELSE IS=CHR$(ASC(IS) AND 95):IF IS="X" THEN 1569
2009 V=ASC(IS)-64:IF V<1 OR V>29 THEN 1999
2019 NI-V:LOCATE 29,2
2029 PRINT "*2";TAB(15);NAMS(V);TAB(39);PX(V);TAB(49);PY(V);
2039 D=ABS(PX(N1)-PX(N2))+ABS(PY(N1)-PY(N2))
2049 LOCATE 23,5,9:PRINT "They are";D;"units apart (any key).";
2059 IF INKEY$="" THEN 2059 ELSE 1569
2069 GOSUB 3739
2079 LOCATE 16,29:PRINT "Planetary Data System";
2089 LOCATE 18,5:PRINT "Data on: ";
2099 GOSUB 3599:LOCATE 18,14:IS=INKEY$:IF IS="" THEN 2099 ELSE IS=CHR$(ASC(IS) AND 95)
2109 V=ASC(IS)-64 IF V<1 OR V>29 THEN 2099 ELSE PRINT NAMS(V)..GOTO 2179
2119 LOCATE 19,5 PRINT "Population. ";POPLINS(V),
2129 LOCATE 29,5 PRINT "Tech Level. ";TLVL(V).("TECHS(V).");
2139 LOCATE 21,5 PRINT "Status ";
2149 IF EI(V)=1 THEN PRINT "Empire world"; ELSE PRINT "Independent";
2159 LOCATE 23,5,9:PRINT "Press any key to continue.";
2169 GOSUB 3599:LOCATE 1,1,9:IS=INKEY$:IF IS="" THEN 2169 ELSE 1569
2179 IF SCO(V)=1 THEN 2119
2189 LOCATE 21,5:PRINT NAMS(V);": Unexplored, sir.":GOTO 2159
2199 LOCATE 1,2,9 PRINT STRING$(75,196);:LOCATE 1,39:PRINT "EMBARK";
2209 GOSUB 3739:GOSUB 3759
2219 IF NAV=CP THEN 2349
2229 LOCATE 2,54:PRINT STRING$(LEN(NAMS(CP)),196);
2239 LOCATE 16,19:PRINT "Destination: ";NAMS(NAV);
2249 LOCATE 18,15 PRINT "Arrival year ";
2259 D=ABS(PX(CP)-PX(NAV))+ABS(PY(CP)-PY(NAV))
2269 ARYR=D+YR PRINT ARYR,
2279 IF ARYR=YR THEN 2319
2289 LOCATE 29,15 PRINT "Distance ",D,
2299 YR-YR+1 LOCATE 2,8,9 PRINT YR, D-D-1
2309 FOR T=1 TO 499:NEXT T:GOTO 2279
2319 GOSUB 3739:LOCATE 19,19:PRINT "Planetfall : ";NAMS(NAV);
2329 CP=NAV:RECR=9:TAXED=9:SCO(CP)=1:SHBL=9:FOR T=1 TO 799 NEXT T
2339 GOSUB 3699:GOTO 679
2349 LOCATE 19,19:PRINT "The navigators have no orders, sir!";
2359 FOR T=1 TO 1599 NEXT T:GOTO 679
2369 COLOR 4,9:CLS:LOCATE 1,1,9:FOR T=1 TO 24:LOCATE T,1:PRINT CHR$(179);:LOCATE T,89:PRINT CHR$(179);:NEXT T:CLR1=6:CLR2=5:GOSUB 539
2379 LOCATE 9,39:PRINT "A T T A C K";
2389 LOCATE 16,29
2399 IF FTR>9 THEN PRINT "Fighter squadrons ready, sir!"; ELSE PRINT "We have no fighters, sir!"; FOR T=1 TO 1599:NEXT T:GOTO 679
2409 LOCATE 18,29
2419 IF LTR>9 THEN PRINT "Transports landed, sir!"; ELSE PRINT "We have no transports, sir!"; FOR T=1 TO 1599:NEXT T GOTO 679
2429 LOCATE 29,29
2439 IF EI(CP)=1 THEN PRINT "This is an Empire world, sir!";:FOR T=1 TO 1599:NEXT T GOTO 679 ELSE PRINT "All attack systems operational, sir!";:FOR T=1 TO 3999:NEXT T
2449 GOSUB 3739
2459 FOR T=15 TO 23:LOCATE T,49 PRINT CHR$(179);:NEXT T:LOCATE 24,49 PRINT CHR$(194);:LOCATE 14,49 PRINT CHR$(194);
2469 LOCATE 15,16 PRINT "L A N D",:LOCATE 15,57 PRINT "A I R",
2479 LOCATE 18,2:PRINT "Enemy";TAB(34);:"Empire",
2489 LOCATE 18,41 PRINT "Enemy",TAB(74);:"Empire",
2499 LOCATE 19,1 PRINT STRING$(89,196);:LOCATE 19,1:PRINT CHR$(195)
2509 LOCATE 19,89 PRINT CHR$(189);:LOCATE 19,49:PRINT CHR$(197);
2519 IF TLVL(CP)<3 THEN AP=199:GOTO 2549
2529 AP=35+(INT(FTR/4)*19)
2539 AP=AP+((5-TLVL(CP))*8)
2549 LP=49+INT((INT(LTR/35)-POP(CP))*19)
2559 LP=LP+((5-TLVL(CP))*8)
2569 IF AP>99 AND LP>99 THEN 2829
2579 IF LP<1 AND AP<1 THEN 2769
2589 IF LP<9 THEN LP=9 ELSE IF LP>99 THEN LP=199

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2599 IF AP<9 THEN AP=9 ELSE IF AP>99 THEN AP=199
2699 COLOR 3:LOCATE 21,3:PRINT 199-LP:TAB(35):LP;
2619 LOCATE 21,43:PRINT 199-AP:TAB(75):AP;
2629 FOR TIMER-1 TO 899:NEXT TIMER:COLOR 2
2639 IF LP>99 THEN LOCATE 16,3:PRINT "Land Secured";
2649 IF AP>99 THEN LOCATE 16,43:PRINT "Air Secured";
2659 RA=INT(RND*99)+1:RL=INT(RND*99)+1:N=9 COLOR 4:GOSUB 3599
2669 IF RL>LP THEN LP=LP-INT((LP-RL)/2.5):N=1
2679 IF RA>AP THEN AP=AP-INT((AP-RA)/2.5):N=1
2689 IF N=9 THEN 2729
2699 IF LP<199 THEN LTR=LTR-(INT(RND*2)+1):LOCATE 6,29:PRINT LTR::IF LTR<1 THEN
2769 2709 IF AP<199 THEN FTR=FTR-(INT(RND*2)+1):LOCATE 4,63:PRINT FTR::IF FTR<1 THEN
2769 2719 GOTO 2739
2729 LP=LP+INT((LP-RL)/2.5):AP=AP+INT((AP-RA)/2.5)
2739 FOR T=1 TO 159:NEXT T:I$=INKEY$:IF I$="X" OR I$="Z" THEN 2799
2749 LOCATE 21,2:PRINT SPACES(38)::LOCATE 21,41:PRINT SPACES(38);
2759 GOTO 2569
2769 GOSUB 3739
2779 LOCATE 29,39:PRINT "The battle has been lost, sir!";
2789 FOR T=1 TO 2999:NEXT T:GOTO 679
2799 GOSUB 3739
2899 LOCATE 29,39:PRINT "Attack manually aborted, sir.";
2819 GOTO 2789
2829 GOSUB 3739
2839 LOCATE 29,39:PRINT MANS(CP);" garrisoned, sir!";FOR T=1 TO 2999:NEXT T
2849 EI(CP)=1:FOR T=1 TO 29:IF EI(T)=9 THEN 679 ELSE NEXT T:GOTO 3849
2859 GOSUB 3739
2869 LOCATE 16,19:PRINT "Build Ships";:LOCATE 16,35:PRINT "You can build";(7+TLV
L(CP))-SHBL;"more ships."::GOTO 3169
2879 LOCATE 18,29:PRINT "Transports cost:";
2889 TC=(INT(RND*29)+5)+(2*(6-TLV(CP))):PRINT TC;"Cr.";

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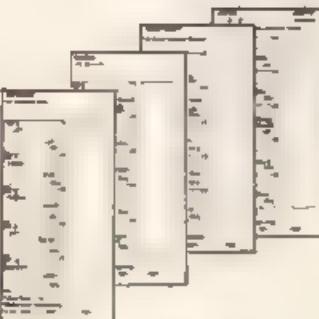
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1999 LOCATE 19,29:PRINT "Fighters cost :";
1999 FC=(INT(RND*15)+3)+(2*(6-TLV(CP))):PRINT FC;"Cr.";
1919 LOCATE 29,29 PRINT "Scouts cost :";
1929 SC=(INT(RND*8)+3)+INT(1.5*(6-TLV(CP))):PRINT SC;"Cr ";
1939 LOCATE 22,29,9:PRINT "How many transports, sir? "; GOSUB 4939
1949 GOSUB 3969:ETR=ETR+N:CR=CR-(TC*N)
1959 LOCATE 6,59:PRINT ETR::LOCATE 2,38:PRINT CR;
1969 LOCATE 22,29 PRINT SPACES(35)::GOSUB 3159:GOSUB 4929
1979 LOCATE 22,29:PRINT "How many fighters, sir? ";:GOSUB 4949
1989 GOSUB 3969:FTR=FTR+N CR=CR-(FC*N)
1999 LOCATE 4,63:PRINT FTR::LOCATE 2,38:PRINT CR,
1999 LOCATE 22,29 PRINT SPACES(35)::GOSUB 3159 GOSUB 4929
1919 IF SSH=9 THEN RETURN
1929 LOCATE 22,29:PRINT "How many scouts, sir? ";:GOSUB 4959
1939 GOSUB 3969:IF SSH+N>9 THEN SSH=9:CR=CR-((N-9)*SC) ELSE SSH=SSH+N:CR=CR-(N*S)
1949 LOCATE 4,19:PRINT SSH::LOCATE 2,38:PRINT CR;
1959 RETURN
1969 VAL=0:GOSUB 3399:LOCATE 22,49,9:IS=INKEY$:IF IS="" THEN PRINT CHR$(249)::FOR QT=1 TO 59-NEXT QT:PRINT CHR$(8);CHR$(58)::FOR QT=1 TO 59:NEXT QT:GOTO 3969
1979 IF IS="X" THEN RETURN 3959
1989 V=VAL(I$):IF V=0 AND IS<>"P" THEN 3969
1999 PRINT I$;:VAL=VAL+(V*10)
2009 GOSUB 3399:LOCATE 22,49,9:IS=INKEY$:IF IS="" THEN PRINT CHR$(249)::FOR QT=1 TO 59-NEXT QT:PRINT CHR$(8);CHR$(58)::FOR QT=1 TO 59:NEXT QT:GOTO 3199 ELSE IF IS="X" THEN RETURN 3959
2119 V=VAL(I$):IF V=0 AND IS<>"9" THEN 3199
2129 V=VAL+V:PRINT I$::LOCATE 22,49,9
2139 IF SHBL+V>MAX THEN PRINT " ";CHR$(8)::GOTO 3969
2149 SHBL-SHBL+V:N=V:LOCATE 16,35:PRINT "You can build";MAX-SHBL;"more ships. ";
RETURN
2159 IF SHBL-MAX THEN RETURN 3959 ELSE RETURN
2169 IF TLVL(CP)<3 THEN LOCATE 18,19:PRINT "Sir, this planet cannot even conciev
e space vehicles!";:FOR T=1 TO 1999:NEXT T:GOTO 1299

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# FastStar

FastStar makes WordStar go fast  
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PT Software  
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West Palisades, NJ 07424

```

3179 MAX=7+TLVL(CP)
3180 IF SHBL>MAX THEN LOCATE 18,19 PRINT "You have built all you can this year.
    sir!"; FOR T=1 TO 1999 NEXT T GOTO 1299
3189 GOSUB 2879 GOTO 1299
3209 GOSUB 3739
3219 LOCATE 16,29 PRINT "Save Game Option".
3229 LOCATE 18,29 PRINT "Press RETURN to abort save ".
3239 LOCATE 29,29 PRINT "Filename > ".
3249 LINE INPUT (8), "", FS
3259 IF FS="" THEN 689
3269 LOCATE 21,29 PRINT "Extension EMP".
3279 LOCATE 22,29 PRINT "Drive is A ";
3289 LOCATE 23,19 PRINT "Insert disk in drive A and press RETURN".
3299 IF INKEY$<>CHR$(13) THEN 3299
3309 OPEN "O",#1,"A "+FS+" EMP"
3319 FOR T=1 TO 29:WRITE #1,NAMS(T),POP(T),TLVL(T),PX(T),PY(T),EI(T),SCO(T),POPL
TNS(T),TECHS(T):NEXT T
3329 FOR T=1 TO 9:WRITE #1,SENT(T),DEST(T),RTRN(T),RTYR(T):NEXT T
3339 WRITE #1,TIMES,CP,SHBL,TAXED,RECR,YR,CR,SSH,FTR,LTR,ETR,NAV
3349 CLOSE #1 GOTO 689
3359 GOSUB 3739
3369 LOCATE 16,29 PRINT "Load Game Option",
3379 LOCATE 18,29 PRINT "Press RETURN to abort load ",
3389 LOCATE 29,29 PRINT "Filename > ",
3399 LINE INPUT (8), "", FS
3409 IF FS="" THEN 689
3419 LOCATE 21,29 PRINT "Extension. EMP".
3429 LOCATE 22,29 PRINT "Drive is A ";
3439 LOCATE 23,19 PRINT "Insert disk in drive A and press RETURN".
3449 IF INKEY$<>CHR$(13) THEN 3449
3459 OPEN "I",#1,"A "+FS+" EMP"
3469 FOR T=1 TO 29:INPUT #1,NAMS(T),POP(T),TLVL(T),PX(T),PY(T),EI(T),SCO(T),POPL
TNS(T),TECHS(T):NEXT T
3479 FOR T=1 TO 9:INPUT #1,SENT(T),DEST(T),RTRN(T),RTYR(T):NEXT T
3489 INPUT #1,TIMES,CP,SHBL,TAXED,RECR,YR,CR,SSH,FTR,LTR,ETR,NAV:TIMES-TMS
3499 CLOSE #1:GOSUB 529:GOTO 689
3509 CONT N:QQQT=VAL(HIDS(TIMES,4,2)):IF YR>350 THEN 3889
3519 IF QQQT/10=INT(QQQT/10) THEN 3539
3529 CONT:RETURN
3539 QQQT=VAL(HIDS(TIMES,7,2))
3549 IF QQQT<59 THEN CONT:RETURN
3559 LOCATE 24,2:PRINT SPACES(78);:FOR QQQT=1 TO 29:IF EI(QQQT)=# THEN 3569 ELSE
    NEXT QQQT:CONT:GOTO 3849
3569 LOCATE 24,31:PRINT "HAPPY NEW YEAR!!!";:FOR QQT=1 TO 79:OUT 56,3:OUT 56,2:Y
    OR QQQT=1 TO 19:OUT 56,4:NEXT QQQT,QQT
3579 YR=YR+1:SHBL=0:GOSUB 3699:IF YR>350 THEN 3889
3589 IF VAL(HIDS(TIMES,7,2))>59 THEN 3589 ELSE LOCATE 2,3:PRINT "Year:";YR;
3599 LOCATE 24,2 PRINT SPACES(78,196). CONT RETURN
3609 FOR T=1 TO SSH
3619 IF SENT(T)=# THEN 3729
3629 IF RTYR(T)>YR THEN 3729
3639 LOCATE 9,15 PRINT "Scout from ",NAMS(DEST(T))
3649 LOCATE 19,15 PRINT "Returned at ",NAMS,RTRN(T)), LOCATE 11,15,9
3659 IF CP>RTRN(T) THEN PRINT "Go there for data ", GOTO 3689
3669 PRINT "Data available".
3679 SENT(T)=# SCO(DEST(T))=1
3689 FOR T=1 TO 2599 NEXT T
3699 LOCATE 9,15 PRINT SPACES(39)
3709 LOCATE 19,15 PRINT SPACES(39),
3719 LOCATE 11,15 PRINT SPACES(39).
3729 NEXT T GOSUB 3979 RETURN
3739 LINE (5,199)-(611,187),#,BF RETURN
3749 LINE (5,53)-(633,91),#,BF LOCATE 1,2,0:PRINT SPACES(78,196);:LOCATE 8,29,0
    -PRINT "-X- Exit Unless Specified";:RETURN
3759 LINE (5,53)-(633,91),#,BF LOCATE 1,2,0:PRINT SPACES(78,196);:RETURN
3769 CLS:DIM POP(29),PX(29),PY(29),TLVL(29),TECHS(29),NAMS(29),POPLNS(29),EI(29)
    ,SCO(29)
3779 FOR T=1 TO 6:READ XS(T),XS9(T):NEXT T
3789 DATA Primitive,259 mil,Industrial,759 mil,Pre-Atomic,1 bil,Atomic,1.23 bil,
    Advanced,1.5 bil,Superior,2 bil

```



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    "# FOR T=1 TO 29 READ NAMS(T):POP(T)=INT(RND*5)+1:PX(T)=INT(RND*79)+1:PY(T)=IN
    "# RND*22)+2:TLVL(T)=INT(RND*5)+1:TECHS(T)=XS(TLVL(T)):POPLNS(T)=XS(POP(T)):SCO
    "# =0:EI(T)=0:NEXT T
    "# DATA Archangel,Balthazar,Cerberus,Darkside,Eris,Frambesia,Galactica,Hecate,
    "# Juno,Kai,Leche,Mensa,Necropolis,Omphale,Palladium,Quarty,Ritus,Shizuoka,Ty
    "# chon
    "# CP=7-SCO(CP)=1:EI(CP)=1:POP(CP)=4:TLVL(CP)=4:POPLNS(CP)=1.25 BIL":TECHS=
    "# Advanced" TAXED=9 RECR=9 SHIPS=9 NAV=CP LTR=9 ETR=109 FTR=49 SSH=4 CR=2999 YR=1
    "# MES="99 91 99
    "# FOR T=1 TO 9:SENT(T)=# DEST(T)=# RTRN(T)=# RTYR(T)=# :NEXT T
    "# GOTO 679
    "# CLS:FOR T=25 TO 39:SYMBOL (T,T+39),"You've WON!",7,5,3:NEXT T:SYMBOL (31,61
    "# "You've WON!",7,5,1:LOCATE 1,29,9
    "# PRINT "CONGRATULATIONS!!!!!!";
    "# LOCATE 29,1 PRINT "You have taken the Galaxy and placed it safely back in t
    "# he hands of the humans in",YR,"years. Do you wish to play again (P), return to
    "# BASIC (B)" PRINT "or the operating system (O)"?
    "# IS-INKEY$:IF IS="" THEN 3879 ELSE I$=CHR$(ASC(I$) AND 95):IF I$="B" THEN EN
    "# :ELSE IF I$="O" THEN SYSTEM ELSE IF I$="P" THEN RUN ELSE 3879
    "# CLS:LOCATE 1,1,9:PRINT "You have run out of time. You have not been able to
    "# regain control of the Galaxy in 389 years. Your longevity operations have ceased
    "# to operate, and a new ruler will take over.";
    "# GOTO 3899
    "# CLS LOCATE 1,15,9 PRINT "G A L A C T I C   E M P I R E";
    "# PRINT "You have been chosen as the new ruler of the Human Empire.
    "# As the new ruler, it is up to you to regain control of the governing worlds of
    "# each of the nine-teen systems formerly controlled by the human race. It will b
    "# e up to you"
    "# PRINT "to decide if you will lay low and build your strength or if you will
    "# bravely attack the enemy world. In some cases, winning the battle will be easy
    "# In others, one foolish move could become a devastating loss of time and resourc
    "# "
    "# PRINT :PRINT
    "# PRINT "Please note that you have only 359 years in which to accomplish th
    "# is feat. If you do not do it, your Life-o-matic (copyright 2875) will cease to f
    "# unction and"
    "# PRINT "a new ruler will take over. Note that except in travel and cryonics
    "# a year is about ten minutes long in 'real time'." :PRINT :PRINT :PRINT T
    "# :";"GOOD LUCK".
    "# IF INKEY$="" THEN 3969 ELSE RETURN
    "# N=9:FOR T=1 TO SSH
    "# IF SENT(T)=1 THEN N=N+1
    "# NEXT T
    "# LOCATE 4,39,9:PRINT "(";RIGHTS(STR$(N),1);" Scouts Sent)";
    "# RETURN
    "# FOR QQY=17 TO 22:LOCATE QQY,2:PRINT SPC(17)::NEXT QQY RETURN
    "# TRNSPT=-1 RESTORE 4119 GOTO 4969
    "# TRNSPT=0 RESTORE 4179 GOTO 4969
    "# TRNSPT=0 RESTORE 4229
    "# READ KOLORCODE IF KOLORCODE=999 THEN 4999
    "# READ X1,Y1,X2,Y2 Y1=Y1+128 Y2=Y2+128 X1=X1+19 X2=X2+19
    "# LINE (X1,Y1)-(X2,Y2),KOLORCODE GOTO 4969
    "# IF TRNSPT THEN FOR X=47 TO 83 STEP 4 FOR Y=159 TO 156 STEP 2 PSAT (X,Y),6*N
    "# X,Y
    "# RETURN
    "# DATA 3,19,29,39,29,3,19,29,4,25,3,4,25,19,39,3,19,39,3,39,39,32,29
    "# DATA 3,39,29,32,22,1,32,22,35,29,1,32,28,35,39,1,35,39,75,39,1,35,29,75,29
    "# DATA 3,31,22,31,28,1,32,22,32,28,1,75,29,75,39,4,76,29,89,29,4,76,39,89,39
    "# DATA 4,76,29,76,39,4,89,29,99,23,4,89,39,99,27,4,99,23,99,27,7,91,23,93,29
    "# DATA 7,91,27,93,39,7,91,23,91,27,7,93,29,95,25,7,93,39,95,25,6,6,24,19,24
    "# DATA 999
    "# DATA 4,19,29,45,29,4,19,29,15,25,4,15,25,45,25,4,45,25,45,29,7,46,25,53,39
    "# DATA 7,46,25,46,29,7,46,29,53,17,7,53,17,69,17,7,53,39,65,39,7,60,17,67,29
    "# DATA 7,65,39,67,28,7,67,28,67,29,7,46,25,48,29,7,48,29,52,29,1,47,25,66,25
    "# DATA 1,47,29,66,29,6,53,17,49,17,6,49,17,33,19
    "# DATA 999
    "# DATA 7,39,29,65,29,7,39,39,65,39,7,39,29,29,27,7,29,27,39,39,7,65,29,79,27
    "# DATA 7,65,39,79,27,1,21,27,69,27,6,25,24,33,24,6,26,23,34,23,6,38,23,62,23
    "# DATA 6,38,24,62,24
    "# DATA 999

```

# BUSINESS SECTOR

CHARLOTTE & BRIAN STONE  
Soft Sector Contributing Editors

**Q.** I would like to send printer set-up codes from DOS to my printer, but some of them will not work and others will. I would also like to print graphics within text from EasyWriter 1. I can print the graphics from BASIC but not from EasyWriter.

Bob Bostrom  
Santa Monica, CA

**A.** I have found that some of the control code sequences cannot be sent to a printer from MS-DOS. I do not know why. If the code sequence cannot be sent from DOS, you will have to do it from EasyWriter or WordStar. If I were you I would change over to WordStar, as it is much more flexible and powerful than EasyWriter 1.

Regarding graphics characters from a word processor I think you will find that any word processing software will not pass characters higher than 127. The reason is that they are intended to generate text, not graphics. Normally, the graphics mode of a dot matrix printer must be switched in and out and your word processing software is not doing this. I have looked at the pages of the Gemini-10X manual you sent and the only code I see that may help is "ESC #1" on Page 243. You could try sending this code to the printer before you send the code for the desired graphics character. This code is intended to switch the printer to graphics mode.

**Q.** I have a Qume Letterpro (22 CPS) and a Gemini-15 (100 to 120 CPS). The Qume seems to print faster with WordStar than the Gemini. Why? I have tried all sorts of different configurations with no success. Can you help?

Steven C. Allen  
Des Moines, IA

**A.** From your description of the way your Qume Letterpro and Gemini-15 are printing, it would seem that the Qume has a larger buffer than the Gemini. This would account for the slowdown that you have with the Gemini. WordStar only sends data to the printer in small sections and it goes to disk for each of these. As a result, a small buffer in the printer will cause slower disk access and thus produce slower printing.

To change this situation you have two options, one is to invest in an external printer buffer or to invest in spooler software which should feed the printer more consistently.

**Q.** I just purchased a Panasonic KX-P3151 daisy wheel printer. It works with CalcStar and BASIC but will not print with WordStar. If I print with WordStar it tells me that it is printing but nothing prints on the paper. Can you help?

Anthony T. Dubusky  
Wilmington, NC

**A.** It would seem from your description that your version of WordStar needs to be reinstalled. The distribution copy of WordStar is installed for the IBM dot matrix printer and for your printer it should be installed as a standard printer.

This should get you up and running. The next thing to do would be to try installing a separate copy of WordStar with all of the different daisy wheel types until you find the one that works best with the Panasonic KX-P3151 printer.

**Q.** CalcStar rounds off numbers differently than SuperCalc. Is there any way to correct this? I have an Olympia Electronic Compact NP printer. How can I use condensed print without having to flip DIP switches all the time? I would like to merge this feature with CalcStar. Does it hurt the printer to change the DIP switches constantly?

George Pilling  
Isalia, CA

**A.** You will not be able to merge the following information into CalcStar but you could use it to create an AUTOEXEC.BAT file to set up your printer and then load CalcStar. The information provided is for an Okidata printer. You will have to substitute the correct control code information for your Olympia Compact NP printer. This information will relieve you of having to change the DIP switches everytime you want to change type sizes.

DIP switches are not intended to be changed all the time. After repeated changes they could fail, and this is why most are in concealed places. I was not able to furnish the control code information for your printer because you did not send a copy of your printer manual.

From the MS-DOS A> prompt you can change to condensed print. This be done by typing the following in *capital letters only*:

COPY CON PRN  
^Z  
press RETR 12  
press RETR 12

All of the above must be done with the printer turned on and online, ready to print. The above sequence should work with your Okidata printer as well as substituting other codes for expanded print, etc. Experiment. Remember, you can't hurt your computer from the keyboard. The ^] is equivalent to LPR 12 CHR\$ (29) from BASIC. The ^Z is the end of file marker for DOS and will be the same no matter what function or codes you try to use. This must be done even if you want compressed print.

After spending a couple of hours "playing" I have come up with another solution which you may like better. It will be executed automatically everytime you boot the disk. Type the following just as shown using all capital letters. This is done from the A> prompt:

COPY CON: AUTOEXEC.BAT press RETR 12  
COPY NARROW.SU PRN;^Z press RETR 12  
COPY CON: NARROW.SU press RETR 12  
^] CALCSTAR.COM^Z press RETR 12

The first line creates an AUTOEXEC.BAT file, which the computer will run automatically on every re-boot of the system bypassing the time and date. The second line tells the computer to send the file NARROW.SU to the printer. The third line creates the file to be sent to the printer to turn on compressed print. Line four sends the equivalent of LPRINT CHR\$(29) to the printer as well as executes the program CALCSTAR.COM can be the name of any program, so you could do the same thing to your ReportStar disk for compressed print.

Regarding CalcStar and SuperCalc rounding numbers the same, if you will be specific we will try to find an answer to your question.

**Q.** I would like to know if there is a modem that can tell the difference between a human and a computer answering the phone? Also, do you have any books of programs for the VME 550 series of computers?

Steven M. Moore  
Part Riche, IL

**A.** Regarding a modem being able to tell the difference between a human and a computer on the line. Each modem must receive a signal from the other modem which allows them to communicate with each other. If this signal (carrier) is not sent communication is not possible. This is the only way a modem can determine what or whom has answered the phone.

The following is a list of all of the books I have been able to find of Sanyo programs. This list is not being endorsed in any way. Persons thinking of buying these books must determine their usefulness.

MBC-550/555 Beginner & Intermediate Guide, by Fred Blechman, \$14.95 ISBN # 0-03-000-182-0

MBC User's Handbook, by Weber Systems, Inc., \$17.95, ISBN # 0-938862-11-1

BASIC User's Handbook, by Weber Systems, Inc., \$17.95, ISBN # 0-938862-02-2

MBC Business Software in BASIC by Weber Systems, Inc., \$17.95, ISBN # 0-938862-37-5

**Q.** In preparing manuscripts, I use a generally accepted format for page numbering and identification. Page 1 is numbered. In the upper right-hand corner of Page 2, and all subsequent pages in Line 1 and beginning at about column 41, I type in my name, script identification and page number per the following example.

Fleshman, A Story 12

I am trying to automate this, but I am having trouble getting the page numbers to correctly.

Ronald R. Fleshman  
Snohomish, WA

In the sample from your letter, if you type the symbol '#', you will get only numbered pages just as you want. The '#' is to be typed (not a hash). Try the following:

At the top of Page 1 use .OP (omits page numbers) HF Fleshman A Story (for all other pages).

At the top of Page 2 only, .PN (turns on page numbers); HF Fleshman A Story # (for all other pages)

The examples will print as you requested in your letter. You will be able to position the header text anywhere on the line by inserting or deleting spaces.

**Q.** I have a Sanyo MBC-555-2 and am considering upgrading to 768K. I use CalcStar and would like to know how large a spreadsheet I can get. If I get this upgrade, will I also have to increase the size of my disk drives? Can I store one file on more than one diskette? Is this what volume labels are for?

Roslyn S. Zelenka  
Washington, DC

**A.** There would be no advantage in increasing your computer memory to 768K for CalcStar. The program in its existing form (Sanyo version) will not look at more than 512K of memory. It will not be necessary to change to larger disk drives because of the compression that is used for the data that CalcStar outputs.

The volume label is used primarily for hard disk drives and would be of little use for floppies other than as a "title."

**Q.** I have a problem getting my Qume Sprint 12/25 to print 12-pitch text. I have done the installation correctly for WordStar, but I can't get 12 pitch. I would also like to be able to skip fields occasionally, with MailMerge inputting information from a data file. How do I do this? Also, I would like to speed up WordStar as well as some of the other programs. Can these be loaded into RAM rather than requiring disk access all the time? I followed the patches in Joseph Kattan's article, "On Customizing WordStar" (SOFT SECTOR, August '85, Page 45), to omit the function key prompt line and now I cannot exit WordStar using the 'X' from the main menu. Why? Also, when I did exit, I lost data from my data disk. Now what do I do?

Peter Langlykke  
Yonkers, NY

**A.** MailMerge will skip a field anytime you want it to without inserting a blank line or space. When you create your variable, if you put /O as follows, you will get the desired results.

/VARIABLE NAME /O

If there is no input, it will be skipped just as if it did not exist.

When you wish to use 12-pitch printing, rather than WordStar's default of 10 pitch, you should put the dot command CW10 at the top of your file. This will change the horizontal motion index being sent to a daisy wheel printer from 12/120th to 10/120th of an inch.

The easiest way to increase the speed of larger software packages that use overlays (i.e., WordStar and InfoStar), is to purchase a RAM disk software package. This will allow you to load the complete application into RAM as if it were an extra disk drive. Check back issues of SOFT SECTOR for reviews. RAM disk software is available from many advertisers.

It seems that Mr. Kattan's fix, to delete the prompt line at the bottom of the screen, does not work. I tried it with the same results. If you have not at this time recreated your data or been able to recover it, send me the disk and I will try.

Charlotte Stone, office manager for the Detron office of the Shaw Walker Co., has been using a Sanyo computer in her daily work routine since October 1983. Brian Stone has been using a variety of Sanyo computers since May 1983. Both have been involved with computers since their first purchase in July 1978.

# SOFT TALK

The following products recently have been received by SOFT SECTOR, examined by our magazine staff and approved for the Soft Sector Seal of Certification, your assurance that we have seen the product and have ascertained that it is what it purports to be.



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7. "The Software Toolworks has a whole raft of programs that work, and (the company) sells them for reasonable prices. I strongly recommend that you get their catalog." - Dr. Jerry Pournelle computer columnist "Byte" and science fiction author
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CA residents add 6.25% sales tax. Dealer discounts excused.

**QUICKCODE AND PROGRAM DEVELOPMENT** is a reference book for QuickCode users, and provides documentation and explanation of the dBase II programs generated by QuickCode. The book provides an example of the potential of QuickCode-generated programs through the development of numerous enhancements and improvements. *QuickCode and Program Development* sells for \$18.95. Software Blueprints, P.O. Box 2969, Seal Beach, CA 90740-1969.

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**DPATH+PLUS** is a disk file redirection utility that allows programs to read and write to any file, in any directory, on any disk drive. This utility expands the usefulness of nearly all application programs, and runs on almost all MS-DOS systems. *DPath+Plus* sells for \$45. Personal Business Solutions, P.O. Box 757, Frederick, MD 21701. (301) 865-3376.

\*\*\*

**THE COMPUTER UNDERGROUND**, a book by M. Harry on computer hacking, crashing, pirating and phone phreaking.

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**TOE** sells for \$29.95. Brown-Wagh Publishing, 800 Charcot Avenue #110, San Jose, CA 95131.  
Loompanics Unlimited, P.O. Box 1197, Port Townsend, WA 98368.

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**MY A-B-C's**, six educational games for children aged 3 to 7. The games teach youngsters how to recognize letters, identify letter combinations in words, develop concentration skills and hand-eye coordination. *My A-B-C's* runs on the Sanyo 670, 770 and 880 series computers and sells for \$19.95, plus \$3 S/H. Paperback Software International, 2612 Eighth Street, Berkeley, CA 94710.

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**THE SEAL OF CERTIFICATION** program is open to all manufacturers of products for Sanyo MBC-550/555, 675, 775 and 885 computers, regardless of whether they advertise in SOFT SECTOR.

By awarding a *Seal*, the magazine certifies the product does exist — that we have examined it and have a sample copy — but this does not constitute any guarantee of satisfaction. As soon as possible, these hardware or software items will be forwarded to SOFT SECTOR reviewers for evaluation.



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## Submitting Material

Contributions to SOFT SECTOR are welcome from everyone. We like to run a variety of programs which will be useful/helpful/fun for other Sanyo owners.

**FORMAT:** Unless the program accompanying your submission is less than 10 lines, we must have the program itself on disk. We will print out the listing to our specifications. We simply cannot take the time to key in (and debug our typing errors) material which is longer than that. Editorial copy can also be included on disk, using any of the word processors currently available for the Sanyo 550, 555 or 775. However, please also include a double-spaced hard copy of your editorial material and hard copy of your program listing. Please do not send text in all capitals. Use upper- and lowercase. While it is a big help to us in typesetting for you to send your article saved on disk using the ASCII option, it is not mandatory. But we must have, at the very least, a double-spaced hard copy of the article.

**WHAT TO WRITE:** Anything with a practical application. If it interests you, it will probably interest a lot of others. However, we vastly prefer articles with accompanying programs which can be entered and run. We can prepare finished tables, diagrams and schematics from your rough draft if you provide legible copy and full directions. We have a continuing need for short articles with short listings.

We do pay for submissions, based on a number of criteria. Those wishing remuneration should so state when making submissions.

For the benefit of those who wish more detailed information on making submissions, please send an SASE to: Submissions Editor, SOFT SECTOR, The Falsoft Building, P.O. Box 385, Prospect, KY 40059. We will send you comprehensive guidelines.

Please do not submit programs or articles currently submitted to another publication.

## soft sector

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#### SUMMER SESSION



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**H**ere we are again with more winners of The Great SOFT SECTOR One-Liner Contest. The authors of these winning entries will receive a copy of the February edition of SOFT SECTOR ON DISK.

To briefly restate the rules of the contest, begin the program with the number one and end it in a single line. Anything else goes. Entries will be accepted in either Sanyo BASIC or GW-BASIC. Include a printed listing, a title for the program and a short explanation of what it does. Send it to The Great SOFT SECTOR One-Liner Contest, P.O. Box 385, Prospect, KY 40059.

**One Liner****ARTIFACT**

This program uses SIN with the seven colors available with artifacting to produce a design that appears to use many different shades and tones not normally available.

```
1 WHILE I=9:CLS:LOCATE 1,1,I:S=((INT(RND
*2)+1)*2)+1:E=(INT(RND*18)+3)*5:FOR N=1
TO 7:Z=25-(N*2):FOR X=9 TO 639 STEP S:Y=
199+SIN(X/E)*((8-N)*5):LINE (X,Y)-(X,199
-Y),N:LINE (X+Z,199-Y)-(X+Z,Y),N:NEXT X,
N:FOR T=1 TO 1600:NEXT T:WEND
```

Jon McGuire  
Orange Park, FL

**One Liner****3-D WITH COS AND SIN**

This One-Liner creates a three-dimensional picture using the COSine and SINe functions. After you have finished viewing the program, press any key to end it.

```
1 LOCATE 1,1,B:COLOR 2,B:CLS:LINE(4B,4B)
-(61B,16B),7,B:SYMBOL(55,B),"3-D With CO
S+SIN By Kevin Pike",2,2,6:X1=59:X2=
59B:FOR Y=4.99 TO 17.43 STEP .94:X1=X1+1
:X2=X2-1:LINE(X1,COS(Y)*191.6/4+199)-(X2
,SIN(Y)*191.6/4+199),Y MOD 7+1:NEXT:I$=I"
NPUT$(1)
```

Kevin Pike  
Storrs, CT

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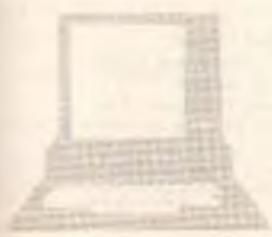
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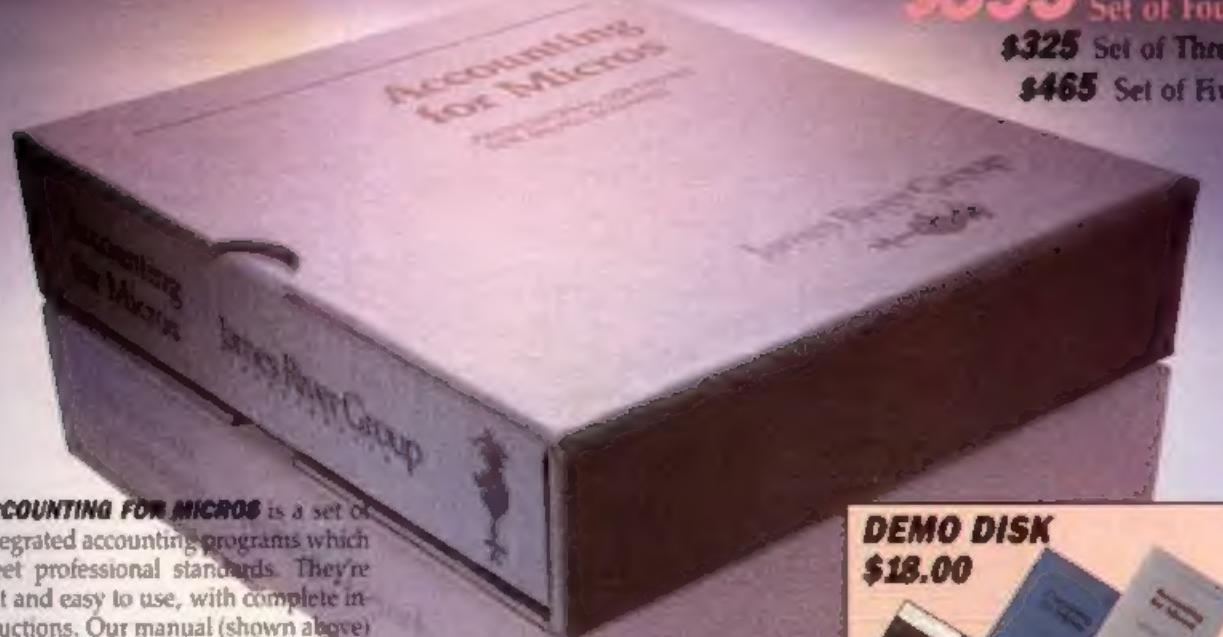
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